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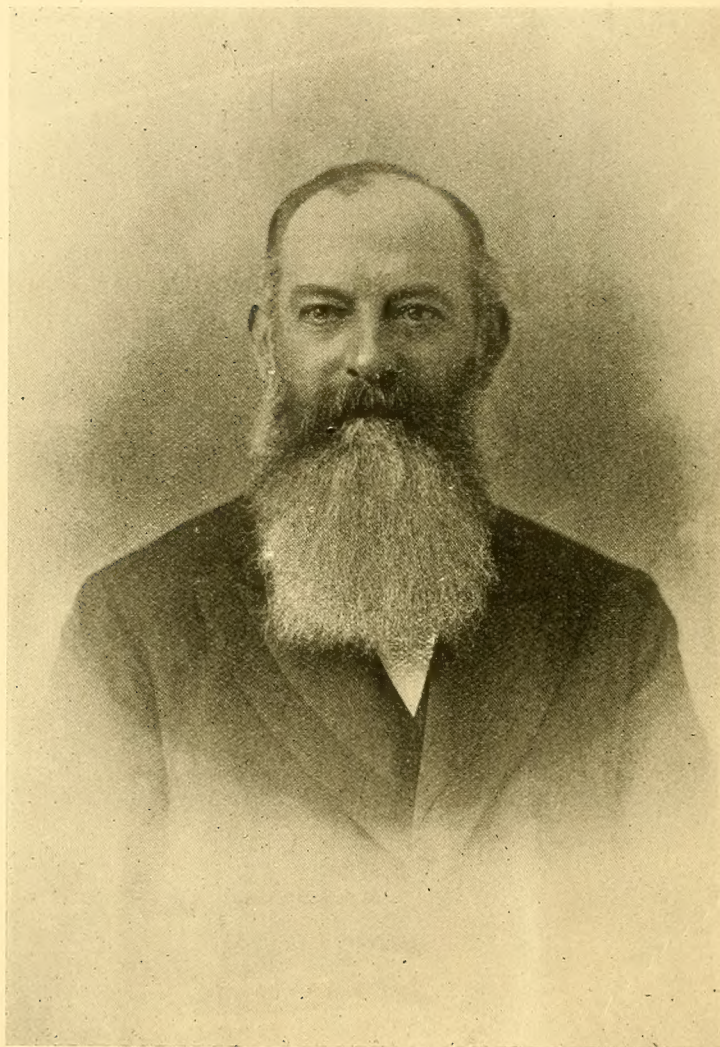
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— TO —

HARRY JAMES VEITCH

THE FIFTY - NINTH VOLUME OF "THE GARDEN "

Is dedicated.

THROUGHOUT the world, wherever horticulture has gained the affections of the people, the name of Veitch is honoured, and the subject of this memoir is known for his splendid business capacity and his untiring energy in promoting good work. Mr. Harry J. Veitch was born on June 29, 1840, at Exeter, and received his education at the Exeter Grammar School and in Germany. He afterwards attended the course of botanical lectures given by Dr. Lindley at the University College, and gained an insight into the working of the seed department of the business, which he was soon to manage, in the establishment of Messrs. Vilmorin at Paris.

Mr. Veitch commenced work in the Chelsea Nurseries now nearly forty-five years ago, when his activity soon became apparent. When it was determined to hold the Great International Horticultural Exhibition in 1866 in London he entered with zest into the work, forming one of the general committee and of many of the sub-committees.

At the continental horticultural gatherings during the past thirty or forty years Mr. Veitch was a constant visitor, and it is interesting to know he was present at the first international exhibition ever held in Russia, this occurring at St. Petersburg in the spring of 1869, when the party—among whom were Sir Joseph Hooker, the late Dr. Robert Hogg, Dr. Moore, of Glasnevin, and Mr. Robert Warner—were cordially welcomed by the Czar.

Through the death of his father and elder brother, whose health failed in 1867—the former dying in September, 1869, and the latter in August, 1870—Mr. Veitch became head of the firm of James Veitch and Sons, and during this prosperous period of its history he published two works that have obtained a world-wide popularity as important contributions to the subjects of Conifers and Orchids, namely, the "Manual of Coniferae" and the "Manual of Orchids."

The Royal Horticultural Society has ever received Mr. Veitch's strong and constant support. He first joined the Council when the society removed from South Kensington, and is still a member of that body, adding to this important duty his chairmanship of the Orchid Committee.

It is almost unnecessary to write of Mr. Veitch's perennial interest in the Gardeners' Royal Benevolent Institution. He has filled the office of treasurer since 1886, and since the retirement of the late Mr. John Lee from the position of chairman of committee, Mr. Veitch has filled that post also. During that period the institution has grown in influence and strength, widening, too, its basis of operations through the Victorian Era and Good Samaritan funds, both inaugurated during recent years. In addition to this Mr. Veitch was active in forming the Royal Gardeners' Orphan Fund.

In this brief memoir it is impossible to enumerate the many societies to which Mr. Veitch belongs and the philanthropic institutions in which he is interested; but in his beautiful home at East Burnham, close to the glorious Burnham Beeches, he works unostentatiously to promote the welfare of his fellow men. Many are the tokens of the esteem in which Mr. Veitch and Mrs. Veitch are held by those with whom during a busy and happy life they have been brought into contact, and when their silver wedding was celebrated a few years ago friends at home and abroad acknowledged by many beautiful gifts their joy that this distinguished horticulturist and his wife had been spared to celebrate so happy an event.



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THE GARDEN.

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HORTICULTURE IN 1900.

WITH the coming of a new century our thoughts are directed to the past as well as to the future, which we happily know nothing of—its joys, sorrows, and many disappointments. As far as horticulture is concerned, we can look back upon a century of wonderful progress, and the century that has now commenced will, we hope, reveal the same onward march towards spreading a love for flowers in our midst, and stimulating an important industry which concerns the welfare of our nation. Horticulture does not exist merely in a sentimental regard for flowers, or beautiful ways of showing them in the garden, but it has its commercial aspect too, an aspect we think that has been to no small degree lost sight of, in spite of foreign competition and our insular position in the event of hostilities more serious than the conflicts which, unfortunately, marked the closing days of 1900. We must live, and to the farm and garden we look for wholesome food, for better ways of cultivation, and a more agreeable choice of varieties. A year ago we urged in a series of articles from many of our readers the importance of fruit culture, and in the new century this industry should spread far and wide, until the cry that the land of our isles does not pay for culture grows feebler, notwithstanding importations from over the seas. A good English Apple in winter is almost a luxury, for the reason, it is supposed not to pay the producer, and preserved fruits from abroad hold their own easily, in truth, without practically a rival article at home to enter into competition. We have written of this matter in the year that has gone, and do not rest assured that the remarkable fruit crop of last autumn will bring any desired change in our old-fashioned ways of both culture and disposal of the harvest.

The history of the past twelve months shows that horticulture in its broadest sense is progressing. There have been no sensational occurrences, for which we are thankful; but steady progress, save in the management of the fruit crops so bountifully given of late years. Steady, well-balanced work is a thousand times more valuable than hysterical developments, as transient as the leaves of a tree.

It is a pleasure to know that the Royal Horticultural Society maintains its solid purpose of promoting horticulture, and that alone. A few exciting meetings have taken place,

without much result, and we presume, as the century of this historic institution draws nearer, interest in the way it shall be celebrated will increase, without, we hope, any display of temper and needless bickering towards a body of men who, we feel sure, have only the welfare of the society which they represent fully at heart. There is a considerable difference of opinion as to the form the celebration shall take, let us fervently hope not in creating an elaborate hall, but in acquiring suitable gardens to further the practical side of horticulture, as a means of spreading a true knowledge of gardening matters throughout the land. A hall will never accomplish that desired result; it will become a mere show place, a place indeed to spend a pleasant day for those who live within reasonable distance of the metropolis. Anything in the form of an expensive meeting place for horticulturists, a building to comprise offices for all the horticultural and benefit organisations in our midst, will result in bankruptcy, and the Royal Horticultural Society lose its splendid individuality.

There seems no decrease in the number of exhibitions or of interest manifested in them, and we may partly attribute this to the desire of those responsible for their management to get out of too much beaten tracks. The exhibitions of the National Chrysanthemum Society have decidedly increased in beauty, and brought out the great possibilities of the flower for mere decorations, apart from the splendour of individual specimens. We hope the society will follow the line already taken in the future. The most novel exhibition was that of the Sweet Pea, and if it has no other effect than that of getting varieties into something like order it will have accomplished good work.

The sale of poisonous compounds has been the subject of much discussion, and we hope the society founded to remove unnecessary restrictions will be successful. A Bill is to be presented to remove obstacles in the way of legitimate purchase of poisons needful to the gardener and farmer.

It is a painful duty to write of those friends and good workers for horticulture who have "crossed the bar" in the year that has ended. We record, when occasion unhappily arises, the names of those who have passed from amongst us, some personal friends, others part of the great brotherhood of gardeners, some the world calls "amateur," and, not a few, members of the horticultural trade. We mourn for John Laing, whose memory is

inseparably linked with the tuberous Begonia; delightful "Ben" Cant, a prince amongst rosarians of the past century, with whom we must associate Gater, and when writing of those good men who have worked amongst the Roses, we must not forget Mr. T. B. Haywood, of Reigate. The Marquis of Bute, behind whose unostentatious studious life was a powerful personality, will be remembered as the originator of the Welsh vineyards, and others whose names are associated with some branch of horticulture are Mr. William Dodds, of Dahlia fame, Mr. E. J. Lowe, the Fern enthusiast, Lord Penzance, Mr. G. J. Symons, the ardent meteorologist, and, on the threshold of Christmas, Mr. Philip Crowley, a notice of whose death appears in the present issue, whilst we join our continental friends in mourning the loss of such distinguished horticulturists as M. Ed. Pynaert and M. A. de la Devansaye.

Many other worthy men—practical gardeners—have gone too, and, alas! it is ever our mournful duty to record as the years speed on the names of those to whom the message has come. But their example remains, and it is for the younger generation to profit by their good work.

SOME NOTABLE BEAUTY SPOTS.

TRAVELLING hither and thither through this wonderful old world of ours, now in one and now in another quarter of the globe, the writer has had a somewhat unusual opportunity and extensive experience in exploring and observing some of the more especially lovely spots and earthly paradises, not only within the reach of the average traveller, but within touch and contact for the most part of ordinary civilisation. I allude, in fact, in this present treatise, not so much to numberless places or districts, of however surpassing beauty, which are either days or weeks "up-country," or inaccessible to the ordinary sojourner, whether travelling in quest of health or pleasure, but to those other beauty spots which all may visit and enjoy, if not in one country or climate, yet perchance in another, at some time or other in the course of their life.

The superb and entrancing beauties of the far-famed Vale of Cashmere have been so widely and oft described that I yield it here but a passing notice, paying a special tribute, however, to the climate, which in this region is among not the least of its many desirable features. I have often thought that the higher parts of Ceylon's fair isle are of a beauty and transcendent joy unsurpassed elsewhere in any other part of the world. Surely nothing can be more lovely than the entourage of the lake at

Kandy, whether in the freshness of early morn, or by moonlight under a sky bespangled with stars that glitter like diamonds reflected on the silvery surface, and with the water fringed all round with stately Palms and gently drooping growths of varied hue. Around Kandy the country is one of beauty everywhere, whether you wend your course to the river to watch the antics of the elephants at their noontide bathe, or are wafted in your rickshaw right out into the "wilds," up hill and down dale amid bowers of plants and trees meeting from either side, often in an enduring embrace, and breathing out the most subtle perfumes and health-giving essences, or whether, maybe, you saunter forth to that dream of loveliness, the Peridienyeh Gardens, the route to which is one perpetual avenue of ever-changing tropic fruits, flowering creepers, and scented shrubs. The gardens, or half-wild park, are a place to revel in at your leisure, and form a perhaps unique study of well grown every specimen of eastern and tropic growth, though the Botanical Gardens at Singapore (of which more anon) are of almost equal interest. Very wonderful, too, are the gorgeous butterflies and other winged insects ever to be seen hovering about in all parts of the grounds. Nor in this connection must be omitted the flying fox, a handsome creature with the wings of a bat and the body and head of a fox, of which there is a large colony in the further end of the gardens. The higher parts of Ceylon at Newera Elia (pronounced Neuralia), for instance, are wider and grander, but hardly to my mind so beautiful as Kandy and its surroundings, though doubtless the climate is cooler, and perhaps for that reason more salubrious.

A country and atmosphere of somewhat like features is that of the Nilgiris, of which Coonoor and Cotacamund—the latter the Government sanatorium—are two very beautifully situated places. The configuration of the former is very fine, and the views from the elevated portions into the depressed valleys beneath are remembrances never likely to fade away. The Eucalyptus has been largely planted of late years and now forms whole forests, and aids in rendering the Nilgiri climate a most beneficial one. Of great interest all round Coonoor are the Tea and Coffee plantations and the bungalows of the growers. Indeed, the entire hillsides of this district are closely cultivated with these industries.

Passing to another part of India, and at a still more higher elevation, I question whether the views from Dargiling and its contours can anywhere be surpassed. The sight of Hitchin-jimga, as seen exactly opposite to this hill station, is a landscape view of the most marvellous splendour. A large towering mass of snow and ice immediately fronting your gaze, at no apparently great distance and with no intermediate object to break the view, you look across, as it were, an enormous gulf to this magnificent range with its rugged peaks and glittering outlines bathed in a roseate glow of the sun, or gleaming, awe-inspiring, and solemn, beneath the clear, stern light of the majestic moon. The hills and valleys around Dargiling are magnificent, and from one point at this great height, where the intervening configuration is less defined and more shallow, you appear to be looking right down into the plains and across the whole continent of India.

But we must descend from our exalted pedestal and visit more lowly, though in different ways, as beautiful spots. And while in Asia and the Far East the tropic beauties of Singapore must be touched upon. Were it not for the depressing and malarious climate, with its almost diurnal rains and torrential deluges

(the writer was kept a prisoner in Government House for eight days running with no possibility of stirring out), one would suppose it just such a Garden of Eden as depicted in the Scriptures. Unfortunately, in addition there are the usual concomitants of such a climate, viz., the myriads of insects and reptiles which abound in every form. In the beautiful tropical gardens the writer had been escorting a fair American, and after exhausting the marvels of a perfect specimen of the Sealing Wax Palm (for all the world like a giant red stick of this commodity), we were about to wend our way to fresh scenes and pastures new when we discovered we had been standing for the past five minutes exactly over a red ants' nest, the creatures of which had meantime been climbing up our garments and were now beginning to inform us in no measured terms of their presence. I need hardly say the rest of that day was spoiled for us both. But the beauties of the half-cleared jungle with its multitudinous products in the shape of fruits, flowers (including numerous varieties of Orchids), Creepers, Ferns, and many kinds of Palm, with, too, winged insects and birds of most gorgeous brilliancy and plumage, are a delightful joy and a revelation indeed when first beheld. Before leaving Asia I must hardly omit some parts of fairy Japan. Possibly Kioto furnishes as fair a field as any district in these lovely islands for positive beauty in Nature. Whether you traverse the wooded hill slopes, by no means spoilt by picturesque temples and pagodas, or meander across the short plain to the rapid and sparkling river, with its numerous falls and delicate surroundings of waving Bamboo, you are equally fascinated and repaid.

To the wonderful sights and scenery of California, the Yosemite Valley and the Yellowstone Park, is a big leap and space, but permits the mention merely of these gigantic districts of widespread splendour. Probably our American cousins think them unrivalled. Truly, in their way, they can hardly be surpassed in magnificence were comparison invited, though I have ever thought no one district should be compared with any other, at any rate in a different country; each has its own peculiar features, and, it may be added, generally its own special disadvantage, which may compensate or detract, as the case may be. The writer, therefore, in bringing these notes to a close would not desire for a moment to class any of the before-mentioned spots of beauty as against our own little regions of fairness and charm, whether musing on the sylvan beauties of Kent, the hills and dales of Devon and Somerset, the lovely delights of the Severn and Wye, the placid joys of the Lake District, or the wilder splendours of the moor and defile of the peak and the Western Highlands. All are wonderful, but in this last-told category, alas! these same delights are tremendously dependent on what is at best but a somewhat sorry and capricious climate. Z. WALSGRAVE HALL.

EMIGRATION PROSPECTS.

THE January circulars of the Emigrants' Information Office and the annual editions of the penny handbooks show the present prospects of emigration. Revised pamphlets on Ceylon and the United States have been issued. The notice boards are now exhibited, and the circulars may be obtained, free of charge, at about 600 public libraries and institutions throughout the country. In New South Wales the break up of the drought last year has much improved the prospects of all kinds of labour. But there were throughout the year large numbers of unemployed in Sydney, many of whom were pro-

vided with work by the Government Labour Bureau at quarrying, railway construction, &c., the ordinary wage being 7s. per day. In country districts there is plenty of farm labour of a kind, but there is a considerable demand for skilled hands; farmers, however, as a rule do not offer permanent employment, but only during the busy seasons. In Victoria there is no demand for mechanics or labourers, unless they are specially skilled, and bring a little money with them. In South Australia there is practically no demand for more mechanics in the towns, but a skilled hand can generally find employment after looking about for a little. In country districts there is good employment for agricultural labourers. Owing to drought and scarcity of employment in Queensland emigrants, other than female servants, are not recommended to go there at present, unless they receive assisted or nominated passages, or take a little money with them. Free passages have recently been stopped. With regard to Western Australia, it should be remembered that the population of the Colony, though it has rapidly increased, is still small, and that therefore the demand for all kinds of labour is necessarily limited. Official returns for the quarter ending September 30 last show that farm labour is wanted at Toodyay, Geraldton, Katanning, York, and Beverley; that good unskilled labourers are wanted at Perth, Katanning, York, and Beverley. Free farms are given to settlers. In Tasmania the labour market is, on the whole, well supplied with men. The last reports from New Zealand show that there was plenty of work there. Farm labourers are in good demand at the present time. Persons are warned against going to South Africa at present in search of professional or manual work, unless they have ample private means to meet the very high cost of living. They will not as a rule be allowed to proceed uncounseled. There are already large numbers of persons in South Africa at the present time who are out of employment. Full information may be obtained from 31, Broadway, Westminster, S.W.

THE FLOWER GARDEN.

FLOWERING CLIMBERS IN THE SOUTH-WEST.

SOME months ago there appeared in the columns of THE GARDEN a series of interesting articles from the pen of Mr. F. W. Burbidge on "Some of the Rarer Climbing Plants." In the course of the contributions in question, the writer expressed a wish that some reader living on the south coast would draw attention to any other half-hardy climbers or wall shrubs that proved amenable to open air culture in that district. From that date until the present time I have carefully read THE GARDEN, but have failed to notice any response to this invitation. I therefore venture to enumerate a few such plants that to my personal knowledge grow in the open in the south-west, omitting those mentioned in Mr. Burbidge's articles. The list is by no means an exhaustive one, as many half-hardy shrubs of non-scandent habit, not here alluded to, are employed for covering walls in this locality.

Abutilon vexillarium.—This plant, when afforded the protection of a south wall, blooms for eight months out of the twelve, bearing on slender, curving shoots its handsome, bell-shaped flowers with their crimson sepals, yellow petals, and protruding dark brown stamens well into the month of December should no severe frost occur. Florist's varieties of the *Abutilon* also do well on sheltered walls, and during the past November I saw a fine plant some 18 feet in height which was bearing scores of large flowers. *A. vitifolium*, mentioned by Mr. Burbidge, does not require wall shelter in the south-west, where it forms large pyramids in the open that are covered with fine flowers, lavender or white, in the early summer. One specimen in Cornwall that I am acquainted with is 20 feet in height, and is furnished with foliage to the ground level.

Bignonia.—*B. radicans* (syn., *Tecoma radicans*) is perfectly hardy, but, considering the splendour of its August display, is surprisingly neglected as a wall climber. *B. capreolata*, *B. Cherere*, and *B. speciosa* also do well in the open.

Bougainvillea.—This fine climber cannot be considered sufficiently hardy to afford an effective display, even in the most sheltered sites. I know two cases, however, where it has lived in the open for three years and flowered sparingly.

Cassia corymbosa.—This plant is an excellent subject for covering south walls, growing rapidly when established and forming a sheet of deep yellow in the late summer. It retains its bloom-corymbs for a considerable time, often bearing flower until December.

Chorozeina.—This subject grows vigorously in the open in certain gardens in south-west Cornwall, where it commences to flower early in the spring. During a visit to the neighbourhood of Penzance in the last week of March, 1900, the dinner table was on two occasions decorated with flowering sprays of the *Chorozeina* from the open air. In botanical dictionaries the greatest height given for the *Chorozeinas* is 4 feet. In the south-west it easily attains a height of from 6 feet to 8 feet.

Cissus discolor.—This plant has no particular value as a flowering climber, its blossoms being of a greenish yellow colour.

Cianthus puniceus.—This brilliant-flowered climber presents the most gorgeous spectacle when in full bloom, its large crimson-scarlet flowers being borne in such profusion that the wall on which it grows is a breadth of glowing colour. It grows to a large size, and I know a house the whole of whose western wall is covered with it.

Correa.—Certain of the *Correas* are occasionally grown, mostly with wall protection.

Edwardsia microphylla (syn., *Sophora tetraptera microphylla*).—This succeeds in positions screened from cold winds, and bears its racemes of bright yellow flowers in the spring.

Elaeocarpus cyaneus.—A native of Australia that does well on sunny walls in the south-west, producing flower racemes in the summer.

Ercilla spicata (syn., *Bridgesia spicata*).—A climber with self-clinging habit similar to the Ivy, bearing dense racemes of minute, purplish flowers in the early summer. As an ornamental climber it is scarcely worth growing.

Habrothamnus corymbosus, also known as *Cestrum*.—A plant that does not demand wall protection in this district, as in fairly sheltered spots it answers well as a naturally-grown shrub. It bears its corymbs of deep red, tubular flowers through the late summer and autumn, and was carrying bloom on December 15.

Heliotrope.—Although the *Heliotrope* does not in these latitudes form the great hedges which are to be met with in countries where it is not cut down by the winter frosts, specimens are sometimes to be found which have braved the weather for many years on southern walls. I know of one plant fifteen years old that shares such a wall with other tender climbers. With protection it passed through the severe winter of 1884-85 without material damage, and flowers well through the summer and autumn.

Hydrangea scandens.—A vigorous climber better suited for draping a tall tree-trunk than for covering walls. The fertile blossoms being far more numerous than the sterile, detract somewhat from the appearance of the flower-trusses. At Menabilly, in Cornwall, it is used on tree-trunks with excellent effect, one fine Turkey Oak having its bole covered to a height of 40 feet with this *Hydrangea*, planted ten years ago.

Inga pulcherrima.—This pretty Mexican climber proves well adapted for covering southern walls, making good growth and bearing a profusion of pendent scarlet flowers in the summer. Its pinnate, imbricated foliage is decidedly ornamental.

Kennedyia nigricans.—A trailing plant with rich purple flowers sometimes successfully grown on warm walls. Other species are also met with in the open. All are natives of Australia.

Lasiandra macrantha (syn., *Pleroma macranthum*).—A plant too tender to be relied upon in the open, even under the most favourable circum-

stances. I have, however, seen a specimen bearing its large, violet-purple flowers that had passed through the winter with no appreciable damage.

Mandevilla suaveolens.—A very beautiful climber from Buenos Ayres, bearing large white, very fragrant flowers. It is but seldom met with, even in the south-west, but I know four instances where it flourishes and blooms freely annually on south walls.

Pelargonium (Ivy-leaved).—This is one of the best of flowering climbers in the south-west. The variety almost invariably made use of is the salmon-pink *Mme. Crousse*, which, when smothered in its flower-trusses—as it is during the whole of the summer—clothes walls with a mantle of soft colour. Cottages are often covered to their eaves with a wealth of its blossom, and in one case it has reached a height of over 20 feet on a house wall. Though plants would, doubtless, be killed in an exceptionally severe winter, unless associated with more shrubby subjects, they have passed through the last four practically unscathed.

Physianthus albens.—This plant is a vigorous climber that soon covers a large expanse of wall or cliff. It produces a profusion of white flowers in the summer, and occasionally perfects seed-pods. These are as large as a cricket ball, deeply corrugated, and pointed at the lower end. One plant that had covered over 500 square feet of southern rock-face bore nearly thirty of these huge pods, which it was unwisely allowed to perfect, with the result that it died from the strain on its vitality.

Polygonum baldschuanicum.—A handsome, hardy climber lately introduced into the south-west, well known to readers of THE GARDEN from illustrations and notes that have appeared in these columns during the past year.

Rubus australis.—A curious Bramble possessing little or no decorative value, but interesting from the fact that it is practically leafless, the leaves being reduced to midribs, armed with curved spines, and terminated by small blades half an inch in length and one-tenth of an inch in width. It grows rampantly, but, I believe, has never flowered in England.

Ruscus androgynus (syn., *Semele androgyna*).—A native of the Canary Islands. The cladodes, which pass for leaves, are considerably over a foot in length, and are furnished with from twelve to twenty pinnate sections, which are of a brightly polished green. Its small, inconspicuous flowers have been borne in the open in a southern Cornish garden.

Stauntonia latifolia (syn., *Holtællia latifolia*).—This plant bears clusters of small greenish white, highly fragrant flowers in March, and often perfects seed-pods in the autumn. It is a rapid grower, and its leathery leaves are rarely affected by frost.

Solanum jasminoides.—This is the flowering climber par excellence of the south-west, producing its white bloom-clusters for many months in succession. It is classed as deciduous in botanical dictionaries, but is rarely bare of leaves, except after severe frosts in the early months of the year.

Swainsonia albiflora.—This plant bears racemes of white, Pea-like flowers during the summer, and has foliage much resembling that of the *Galega*. It succeeds and flowers freely on warm walls in the open.

Tacsonia mollissima.—A plant whose native habitat is Quito, on the Equator. As, however, the altitude of this place is 9,600 feet above sea level, its climate is not what might be expected from its latitude, and this *Tacsonia* grows rampantly and flowers well in the south-west, in one instance having covered a great portion of a house and having to be severely pruned in consequence. The blossoms are pink, and have cylindrical tubes from 4 inches to 5 inches in length.

South Devon. S. W. FITZHERBERT.

BRACKEN "MISTAKES."

WITH all deference to Mr. J. Simpson's experience with the Bracken, I find myself unable to recant any of my expressions with regard to it. In the first place, we certainly do, as he surmises, view the plant from two different aspects, since

my article was mainly devoted to the rarer varietal forms of the species in their capacity as decorative plants, while he views it solely in its normal form as a pernicious weed, which must be eradicated in favour of paying crops. Apart, however, from these opposite standpoints, he challenges my assertion that it is difficult to transplant, while practically agreeing to my remark that it must be done in the winter when dormant. Here, again, naturally I viewed the matter from the Fern-hunter's point of view, who when he discovers a fine variety growing wild, which he must do in the growing season if at all, is baffled in its acquisition by the fact that he cannot then with any security lift it and take it with him, and practically his only plan is to mark the spot and get it in the winter, or, which is much easier (another point Mr. Simpson challenges), collect the spores and raise it at home in the way I described. This procedure makes Mr. Simpson smile, but if he were a Fern-hunter the smile would be one of self-satisfaction, as this simple way out of the difficulty, and here I may plead, perhaps, some practical experience of a nature not possessed by your correspondent. That the Bracken extends principally by its spores, and that its rhizomes do not extend so far as described, would also, I think, be disputed by mere observers, the case cited of an Oak wood overrun since 1868, as described by Mr. Simpson, and his remark that "it could not extend by its rhizomes at such a rate," makes me smile in my turn, because when once established the rhizomes do undoubtedly travel many yards in a season, and it is only because they become interlaced into a sort of network that the fronds appear closely together. An instance is recorded by Mr. Newman of rhizomes of Bracken penetrating 15 feet, i.e., 5 yards deep, into the soil, and instances of wide gravel walks being subterraneously jumped, as it were, are not uncommon. In my own experience a variety planted inside a fernery burrowed under the foundations of a brick wall, and came up quite a yard away in a bank outside; and last year at the Lakes I saw a plant (a quite barren variety, by the way) which in a few seasons had crossed a large garden from side to side, and thrown up fronds at intervals all the way. The crested variety found at Fay Gate, Sussex, was on both sides of the high road, possibly indeed by scattered spores, but I am sure not necessarily so, and in any case the Bracken in Mr. Simpson's Oak wood, if mainly extended by spores, would certainly not have kept "an almost straight line," as spores fly far and wide. Hence, while welcoming Mr. Simpson's criticism, it is clear we can only agree to differ.

CHAS. T. DRUERY, F.L.S., V.M.H.

NOTES OF THE WEEK.

The Royal Gardeners' Orphan Fund.—The Hon. W. F. D. Smith, M.P., has kindly consented to preside at the next annual festival of this institution, which will take place on Tuesday, May 7.

Fruits in season.—The subject of hardy fruit culture is now such an important one to both professional and amateur gardeners that we are sure our readers will appreciate a series of articles on "Fruits in Season," which will appear in THE GARDEN during 1901. These notes, which will be contributed by Mr. Owen Thomas, Royal Gardens, Windsor, and illustrated, will, we venture to hope, prove of permanent value as a record of the best varieties of hardy fruits suitable for cultivation in Britain.

Autumn flowering of Crimson Rambler.—We would call the attention of our readers to several facts recently observed relative to the growing tendency of Rose Crimson Rambler to produce a second crop of flowers in the autumn. Towards the end of October, 1899, M. Edouard André sent from his garden at Lacroix, to M. Lévêque, at Ivry, a beautiful flowering branch of the above variety, at the same time asking the opinion of the latter gentleman about it. M. Lévêque replied that if the flowers were the result of a bud that had remained dormant

during the spring, and developed in the autumn, the matter would be of no value; but if it was a case of an autumnal-flowering shoot having developed upon another normal flowering one, then great interest attached to it. The autumn-flowering branch above referred to certainly comes under the second heading. Two cuttings were taken from the shoot, of which one became well established, but unfortunately was destroyed in the spring of 1900 by a clumsy workman. M. André in his turn has now received from M. Micheli, on December 23, 1900, four bunches of Crimson Rambler Rose, gathered from the open, in his garden at Crest, near Geneva, together with the following note: "I send to you, as a curiosity, flowering branches of Turner's Crimson Rambler Rose. A large plant growing over an arbour has freely thrown up again. It bears from twenty to thirty bunches, which, thanks to the mildness of the season, are trying hard to flower." We have heard of other similar cases, which go to confirm the opinion that it will not be very long before the Rose Crimson Rambler can rank as a free-flowering autumn variety.—*Revue Horticole*.

Christmas Day, 1900.—A curious Christmas, truly! Thermometer at 10 a.m. at 54°, and like a balmy spring morning; in my coat at church a bunch of white, lemon, and orange Polyanthus Primroses, while the first blossoms of

Linum, to which the species were formerly referred. The best known are *R. trigyna* and *R. tetragyna*, the former with small, smooth, rather dark green leaves, and bunches of blossoms about the size of half-a-crown, and of a soft orange-buff tinting not quite like that of any other flower I can at the moment recall. *R. tetragyna* has larger leaves and primrose-yellow flowers. Both are extremely pretty, and flowering at this dull season are exceedingly attractive. Personally I prefer *tetragyna*, but most of my friends ask for *trigyna*. They are natives of India, and are easily propagated by cuttings taken in early spring (March and April), and flower when quite small. The individual blossoms, like most of the flax tribe to which they belong, are short lived, but they are so numerous that the plants continue in beauty for several weeks. They like a little more warmth than an ordinary greenhouse at this time of year say a minimum of 45° to 50° at night. There is an admirable coloured plate of *R. tetragyna* in THE GARDEN, vol. xxxii., page 200, September 3, 1887.—GREENWOOD PIM.

Christmas flowers in Kent.—Aconite, Winter, not fully expanded; Aubrietia (? sp.); Borage, common; Campanula muralis; Cheiranthus Marshalli (? sp.); Chrysanthemums; Coleicum Parkinsoni; Cornflower, blue; Crinum Moorei, a weak spike, not fully expanded; Daphne blagayana;

must we turn? Many dipteras visit the flowers of the Jasmine, but their probosces are short, and they are not able to gather the nectar. It is the same with bees. One, *Bombus hortorum*, in certain cases and by reason of the length of its proboscis can obtain a little of the nectar that is secreted at the base of the corolla tube, but here there is another hindrance. This bee, for some reason or other, is not fond of Jasmine flowers, and it is only occasionally that it deigns to be attracted by them. The majority of the butterflies are hardly more useful; a beautiful little sphinx, however, bearing the name of *Macroglossa stellatarum* appears to accomplish the task conscientiously. From eight o'clock in the morning until eight o'clock in the evening one sees it in groups upon the flowers of Jasmine. So agile is it that it is capable of visiting fifty flowers a minute, and rarely goes to the same one twice. The proboscis, 28 millimètres long, permits of its reaching the nectar, but it can only obtain this latter by passing its proboscis through the narrow passage between the anthers. Pollen then naturally adheres to it, and this the obliging butterfly will unconsciously depose upon the stigma of the same or another flower.—*Le Jardin*.

Hidalgoa Wercklei.—The so-called climbing Dahlia is going to be a very useful outdoor climber. I had a plant over from America in May, and it has done wonderfully well. It covers a large space in a very few weeks, and the growth is most graceful. It does not seem a very free bloomer, but perhaps it needs richer soil than I give it; still as it was it did well, and a finer scarlet one cannot want. The blooms last a good fourteen days, so it is a profitable plant. Do you know of anyone else who has tried it out of doors? I do not, and should be glad to hear of anyone's experiences. Both my plants stand frost well. We had several in October, and they did not do any harm to the Hidalgo until they were severe enough to hurt the Dahlias.—B. D. W.

Botanic gardens of New South Wales.—We have received the report for the year 1899 on the botanic gardens and Government domains of New South Wales. In the botanic gardens, Sydney, important alterations have been made in connection with the plant houses, the large palm house has been practically re-roofed, a low-roofed Orchid house erected, and another hot-house is in course of construction, as well as other minor buildings. The following note on the National Herbarium is interesting:—"It is obvious that the year 1899 will be a red-letter year in regard to the National Herbarium of the Colony, and, I trust, in regard to the development of botanical education in New South Wales. The herbarium has now a 'habitation and a home,' and my requests for specimens have been very kindly received by official and non-official botanists in many parts of the world. In a very few years I hope to receive large acquisitions as the result of my appeal made under special circumstances. As regards exchanges, I offer as liberal a return in Australian plants as possible, and it will always be my endeavour to make every return in my power to those botanists who have dealt liberally with this establishment. A botanic garden cannot properly perform its functions without the support of a rich herbarium, for a herbarium is, after all, only a garden of dried plants. And whereas the richest garden only contains but a few thousand species growing at any one time, a herbarium may contain tens or hundreds of thousands of species, all subserving the grand object of giving information and developing the resources of the Colony." A list of the principal journeys made for botanical purposes is given, which includes visits to Mount Kosciusko, Blue Mountains, Jervis Bay, King's Table Land, &c. Lists are also given of the publications issued from the botanic gardens (comprising amongst others "Observations on the Eucalypts of New South Wales"), and of the seeds received from and despatched to other botanic gardens. We notice that six packets of miscellaneous seeds were received from the Royal Gardens, Kew, and seeds of twenty species of New South Wales Eucalypti, and 353 packets of New South Wales and other seeds were sent there.



FRUIT OF PASSIFLORA QUADRANGULARIS (REDUCED ONE-HALF). (See page 6.)

Crocus Imperati are unfolding in a little glass. These will be followed in a day or two by many more. *C. Sieberi*, too, is showing. *Iris stylosa* is sending up numerous flowers, which are cut while tightly rolled up like cigarettes. Lenten Roses (*Hellebores*) are opening fast. H. C. Benary and H. D. Moore have already given us several blossoms, while Tea Roses, especially *Vicomtesse de Cazes*, have never ceased blooming since May. On Sunday morning there was a sharp frost, producing nearly a quarter of an inch of ice on my Lily tank, but a thaw set in early, and its effects on vegetation seem practically nil, as an old *Heliotrope* under a sheltered window is scarcely touched. White *Passiflora cerulea* and *Solanum jasminoides* have only just finished blooming. Bulbs of various kinds, Daffodils, Snowdrops, Snowflakes, ordinary Crocuses, and many more are pushing their noses through the damp soil, hinting that spring is approaching, though of late years it is in spring and not winter that we get the frost and snow.—G. P., Monkstown, County Dublin.

Reinwardtias.—Anyone possessing a warm greenhouse should make a note of these charming shrubs, flowering as they do with great freedom in midwinter, and giving a note of yellow, a scarce colour at this time of year when the *Chrysanthemums* are over. *Reinwardtia* is a small genus separated for botanical reasons from

Erica carnea alba; Furze, common; Daisy, common garden white, double; *Helleborus*, red (? sp.); *Ionopsidium acaule*; *Iris Histrio*; Jasmine, Winter; *Laurustinus*; *Leucojum aestivum* (? var. *Hernandezii*); *Lithospermum prostratum*; *Nemesia strumosa*; *Nicotiana affinis*; Pansy, blue; *Polyanthus*, yellow; *Potentilla*, white (? sp.); Pink, Diamond; Primroses, common, and varieties; *Pyrethrum Golden Feather*; *Pyrus japonica* Knap Hill Scarlet; Roses (a few Teas); *Schizostylis coccinea*; Stock, double white; Valerian, common red; Violets; *Chrysogonum virginianum*; *Reseda odorata*; *Reseda alba*.—S. G. R., The Elms, Yalding, Kent.

Fertilisation of Jasmine flowers.

—It is remarkable that the most simple things are those one knows the least about. Everyone has seen the flowers of the Jasmine, but no one knows exactly how their fertilisation is effected. Recent researches, however, have helped to throw more light on this interesting subject. Upon examining a flower of *Jasminum* one at once notices that the corolla tube is narrow, and that the anthers are disposed in such a way as to almost completely close the entrance, leaving a passage between themselves so small as to be hardly apparent. The flowers also are horizontal, and the pollen cannot fall upon the stigma; direct fertilisation is therefore not possible. It is here that the intervention of insects becomes necessary—but to which

Fruit in British Columbia.—We had an abundant crop of fruit here this year. Pears rotted by the ton, there being no demand for them.—G. A. KNIGHT, *Mount Tolmie Nursery, Victoria, B.C.*

Phormium tenax.—I can confirm Mr. Ewbank's account of the variegated *Phormium* (page 428). I have had it here for at least twenty-five years out of doors and unprotected, and never knew it seriously injured.—H. N. ELLACOMBE, *Bitton.*

The Glastonbury Thorn.—Mr. Burbidge writes from Dublin on December 17: "The Glastonbury Hawthorn is now sweet and beautiful in bloom here, earlier than usual by two or three weeks this year. Twelfth-day is its right time—old Christmas-day."

Mr. J. H. Krelage, on his retirement from the presidency of the General Bulb Cultural Society of Haarlem, which office he has uninterruptedly held for forty years, was presented by the members with a magnificent life-size portrait, painted by the renowned Dutch artist Haverman. The society when started in 1860 consisted of nearly 200 members, but now numbers about 2,000, all interested in bulb culture, and twenty-eight local sections in the bulb district. The president elect is Mr. J. H. Wentholt.

Chrysanthemums—two excellent Christmas sorts.—The florists' shops during the few days preceding the Christmas holidays were bright with the display made by two excellent late-flowering Chrysanthemums. Unlike many other sorts one now often sees, the two varieties under notice were very clean and beautifully fresh. Tuxedo is a distinct sort, developing pretty medium-sized blossoms of a bronzy orange shaded chestnut colour. The plant attains a height of about 5 feet, and may be grown to produce quite a lot of useful blossoms. The other variety is Mme. Felix Perrin, which is also known as Framfield Pink. The colour, as the latter name denotes, is a rose-pink, and a very pleasing shade it is. In this instance, too, the blooms are of a useful size, a dozen lightly arranged in a vase making a handsome display. The plant is of dwarf habit.—C. A. H.

Glasgow International Exhibition 1901.—In connection with this great exhibition, which will be opened this year by their Royal Highnesses the Prince and Princess of Wales, a flower show on a big scale is to be held towards the end of August, and will be followed early in September by a fruit show, valuable prizes being offered at both, so as to ensure the support of the chief growers. The exhibition authorities are to communicate with foreign and colonial governments desirous of taking part in special fruit shows, the impression being that such exhibitions would be appreciated by visitors and prove beneficial to exhibitors.

Amaryllis aulica.—In this species the flowers are without the regular shape common to the better class of garden hybrids which are now so generally grown, yet for all this they are decidedly showy, and appear earlier than the other kinds. It is a free, bold-growing plant, the flower scape reaches a height of a couple of feet or thereabouts. The flowers are of a deep scarlet, veined with dark crimson, but in depth of colour and other particulars there is a certain amount of individual variation. During the dull days of December its bright coloured flowers form an attractive feature in the stove or intermediate house. They remain fresh, too, for a longer period than one would expect them to keep. This *Amaryllis* was introduced from Rio de Janeiro in 1819, so that it cannot be regarded in any way as a novelty. It is not at all difficult to cultivate, hence is frequently to be met with in gardens where with very little trouble, except watering during the growing season, it can be depended upon to flower year after year.—T.

Physalis edulis as a dessert fruit.—I noticed in the column of garden notes in your issue of December 1 some remarks as to the use of *Physalis edulis* as a dessert fruit. I do not know whether you may be aware that this is a fruit largely grown at the Cape under the name of the Cape Gooseberry. It is in great request for

pies and puddings, but principally for jam-making, but is never, I think, eaten in its natural state except by children who help to shell the fruit for jam-making. At any rate, it is certainly not appreciated as a table fruit. The jam is not only a great favourite at the Cape—my native country—but is to be obtained in London, I believe, at some of the stores. I find it generally liked by all to whom I have introduced it. Cape Gooseberry and Quince are indeed our two chief jams. Hoping this may be of interest to you.—A. M. EAST, in *Country Life*.

Primrose Miss Massey.—It may not be generally known that this rich, bright crimson Primrose originated in the nursery of Mr. H. Massey, Sale, near Cheshire, as an accidental seminal sport. It can scarcely be termed a robust grower in the south; perhaps it misses the cooler and moister conditions of its home in Cheshire. I can never induce it to make the same robust growth as my seedling coloured varieties do, and with me—as I am narrating only my experience of the variety—it does not bloom nearly so freely. When I can succeed in getting a plant to grow vigorously it generally throws up a scape having three or four blossoms on short pedicels. Another peculiarity is that it is practically sterile as far as the production of seeds is concerned. I did last summer secure two or three pods of seed, which appears to be unusual, as I am informed it does not produce them in Lancashire or Cheshire. I shall experiment with the seeds I have secured, which are large and plump, just to ascertain if it will reproduce itself from seed. Miss Massey bloomed in many instances this autumn, and the flowers were a very rich hue of colour. This tendency to bloom in the winter months suggests that it would make a valuable variety for cultivation in pots under glass, so as to have it in flower at Christmas and through the spring months. It seems a waste of beauty and richness of tone to put forth its blossoms in the open, where they are liable to be injured by storm, rain, and frost. I have seen it grown in pots in this manner, and develop large and brilliant corollas on stout stems. Its brilliance of tint adapts it for mingling with flowers of softer colours.—R. D.

CONTINENTAL NOTES.

THE Northern French Chrysanthemum Society, whose head-quarters are at Lille, and which has been doing useful work in the North of France for some few years, is about to be dissolved. Its official organ, the *Nord Horticole*, has been discontinued for several months, and consequently French gardening literature loses a bright little monthly periodical that we always looked forward to with no small degree of interest.

Contrary to the practice here in England, all the foreign Chrysanthemum societies publish an official publication. The Paris Chrysanthemum committee has its journal that appears at irregular intervals. The French National Chrysanthemum Society issues *Le Chrysanthème*. The Italian National Chrysanthemum Society publishes its quarterly journal, entitled *Il Crisantemo*, and the more recently Swiss National Chrysanthemum Society has just started issuing theirs, which bears the title *Le Soleil d'Automne*. English societies might do worse than follow the example.

The next conference and exhibition of the French National Chrysanthemum Society has been decided to be held in the City of Bordeaux, in November, 1901.

The floral committee at the recent Paris Chrysanthemum Show awarded, on October 31 last, nine first-class certificates with felicitations; thirty-seven first-class certificates, and twenty-eight second-class certificates, a total of seventy-

four in all. At the conference three days later a proposal was made to abolish second-class certificates altogether.

Calvat's Sun is unquestionably the finest novelty in new Chrysanthemums that appeared last year. It is an immense Japanese incurved of a deep rich golden yellow, of immense size, and equal from an exhibition standpoint to anything the eminent raiser has ever yet produced. It will probably be distributed in the spring.

Those English friends and acquaintances of the late M. Ed. Pynaert, the illustrious Belgian horticulturist, who have shared his hospitality when visiting Ghent, as the writer has done, may like to know that a life-like photogravure of him is included in the current number (December) of the *Revue de l'Horticulture Belge et Etrangère*.

Le Jardin, of Paris, in its last issue contains four photographic views of the International Chrysanthemum Show held there last month. One of these is an extensive view of the exhibits in the French section; another is a collective group of Mr. Ernest Calvat's new seedlings, one of the finest of its kind ever set up; the third is the very extensive group staged in the name of the English National Chrysanthemum Society, and the fourth is Mr. W. Wells' exhibit of cut blooms, six of which were awarded first-class certificates. H. P.

TROPICAL FRUITS.

THE CUSTARD APPLE.

THE Custard Apple is one of those delicious tropical fruits which, like the Mango, Mangosteen, Durian, &c., are known to stay-at-home folk only by repute, imported samples being of inferior quality, whilst attempts to grow them in this country have had only poor results. In India, where the Custard Apple has long been naturalised, and where it is said to be "completely domesticated in gardens," the fruits are eaten with relish, and they are so abundant that "in times of famine they have literally proved the staff of life to the natives of some parts." It forms a shrub or small tree, not unlike a Peach tree, with smooth, leathery, oblong leaves, small whitish green Magnolia-like flowers, and ovate fruits the size of a large Peach. These fruits are distinguished by their tubercled or scale-like exterior, whilst the pulp is yellowish, and when ripe of the consistency and appearance of ordinary custard, so that it is difficult to raise a ripe fruit without its collapsing. In



CUSTARD APPLE (REDUCED).

India they are ripe about the middle of May. It will be seen that imported fruits must necessarily be gathered long before they are ripe; indeed, this is necessary in India, where we are told "the fruits as brought to market are generally forced in straw, being gathered before they are ripe, otherwise they would require netting to protect them from birds, squirrels, &c. They grow in the highest perfection in rocky, barren, hot parts of India, where they are propagated from seeds and are of very rapid growth, coming into bearing in two or three years' time." Surely such a fruit is worthy the attention of wealthy horticulturists in this country.

Indian tradition says that the god Ram and his wife Sita decided to each create a fruit that should excel all others. Ram produced the Ramphal (phal=fruit), which is known to botanists as *C. reticulata* or Bullock's-heart, and which in India is not considered palatable by Europeans, although it is eaten by the natives. Sita did better, her production being the Sitaphal, the Custard Apple, or *A. squamosa*.

The two species named, and two others, *A. Cherimolia* (the Cherimoya) and *A. muricata* (the Sour-sop), are all natives of South America and the West Indies, but they have long been naturalised in other tropical regions. The Cherimoya has ovate fruits, which are much esteemed by Creoles and some Europeans. Fruits of this were produced at Kew a year or two ago, and they were, to my taste, delicious. The Sour-sop has large green prickly fruit of medicinal value only.

It is remarkable that whilst in India the plant called Custard Apple, and eaten with relish by Europeans, is *A. squamosa*, and *A. reticulata*, or Bullock's-heart, is not cared for except by natives; whereas in the West Indies *A. reticulata* is called Custard Apple and *A. squamosa* the Sweet-sop.

THE PERSIMMON.

(DIOSPYROS KAKI.)

THE Persimmon is to the Japanese and Chinese what the Apple is to us. It has been cultivated by them for its fruits for many generations, and there are hundreds of named varieties recognised by the fruit growers there. About twenty years ago a selection of varieties was introduced into the orchards of California and planted extensively in the belief that the fruits would find a ready market. But the American public would not buy Persimmons. In England it has been grown and fruited in a few gardens, chiefly as a curiosity; but where it has succeeded it has been greatly admired, as much for the rich colours assumed by its foliage in the autumn as for the beautiful rich scarlet colour of its Peach-like fruits, which are ripened in late autumn and hang for weeks

after they are ripe if the weather is favourable. They are not palatable until "bletted," as in the case of the Medlar, when, however, they are delicious to my taste, although to others they are not.

In the warmer parts of these islands the Persimmon could be grown on walls outside if treated the same as the Peach, whilst in orchard houses their culture would be quite easy. At Kew they fruit every year in a sunny greenhouse, where they are planted in rather gravelly soil, pruned on the short-spur method, and manured when growing. To ensure their setting, a rabbit's tail is drawn over the flowers when they are in the right condition, which is usually in June. The ripe fruits were gathered this year in November. The fruits are grown on the Riviera, and are said to realise as much as a franc each when in good condition. Plants of many varieties are to be had from Italian or French nurserymen. The following interesting account of this tree is from Firminger's "Manual of Gardening for India," an excellent work to consult on many kinds of tropical and sub-tropical fruits:—

"A large tree, native of China, with large handsome foliage; suited only for gardens of large extent; thrives well, and bears abundantly in the neighbourhood of Calcutta. The fruit ripens during the month of August, and is about the size of a large Apple, with twin Almond-like stones. The rind is of a rich ruddy crimson colour, in texture somewhat resembling but rather rougher than that of a Peach. It has rather a disagreeable odour (?). In flavour it is suggestive of an over-ripe or very mellow Apple, with a little of the taste of the Melon. Though not unpalatable, it is a fruit which few, perhaps, would care to partake much of. A fine preserve is said to be made from it by the Chinese, for which, indeed, it seems well adapted."

According to Dr. Henry, the fruit of the Persimmon has another use in China; it is cut into halves and put into water, and the oil thus obtained is used for waterproofing the common Chinese umbrellas and hats; it is known as the "Yu-shih-tzu."

Even if the fruits are not considered delectable to the palate they cannot fail to please the eye, and certainly there are many less ornamental plants admitted into the conservatories of this country than the Persimmon.

THE GRANADILLA.

(PASSIFLORA QUADRANGULARIS.)

THERE are three species of *Passiflora* in gardens which are so much alike that either one of them is apt to be called *P. quadrangularis* or *P. alata* or *P. macrocarpa*, the Granadilla. They have angular, winged stems, large entire ovate leaves, and large egg-shaped edible fruits, which some people consider delicious, whilst others call them unpalatable. The largest fruited is *P. macrocarpa*, which I have seen at Kew with fruits the size of an ordinary Melon. The fruits of the other two are smaller, about the size of a swan's egg. *P. quadrangularis* is a robust climber, which in a stove will cover a large area in a year, flowering freely, the flowers flesh-coloured with a corona composed of long, contorted filaments of a blue-purple colour, and suggestive of a Sea Anemone. It fruits freely, the fruits ripening rapidly; when ripe they are yellow-green, with a thick rind enclosing a mass of the most deli-

ciously flavoured jelly-like pulp and numerous small seeds. It may be made into a conserve of a particularly pleasing quality. Several crops of fruits may be had in one year. The plant is a native of tropical America, but is now cultivated in many tropical countries.

There are two other species of Passion Flower with edible fruits, namely, *P. edulis*, sometimes also called the Granadilla, which has tri-lobed leaves and smooth purple fruits the size of a bantam's egg, and *P. maliformis*, the Golden Apple, which has ovate entire leaves and fruits the size of a small Apple. This last is said to be much appreciated in Jamaica; but although I have long known it at Kew, where it flowers annually, I have never seen fruits of it.

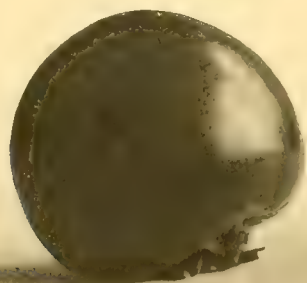
W. W.

[Next week we shall have a general article upon tropical fruits, "By One who has Grown Them."—Eds.]

MISCELLANEOUS.

ZONAL PELARGONIUMS AT BICKLEY.

NO grower of Zonal Pelargoniums for winter flowering has made frequenters of the Drill Hall and other winter shows or meetings so familiar with the wondrous beauty and superb, as well as varied, colourings found in these flowers as has Mr. H. Cannell, the veteran and enthusiastic florist of Swanley. A look in at the Swanley Nursery during midwinter, and a sight of the long houses devoted to single and double-flowered varieties, brings with it a revelation of floral beauty that cannot be fitly described, but needs to be seen. Not necessarily with less skill, but with a smaller number of plants, some others do also in the same direction, and amongst gardeners few can excel Mrs. T. B. Haywood's able grower at Woodhatch, Reigate (Mr. C. J. Salter), who every winter has a large span house filled with some 150 plants in 6-inch pots, inclusive of the best varieties, not less than thirty-six in number, and includes in the flowers varied shades of the most exquisite hues. Amongst amateur growers of these flowers, Mr. H. M. Pollett, of Fernside, Bickley, Kent, takes a high place, as he grows some 150 plants also yearly, and thus enjoys during the winter, in a moderately warm span greenhouse, a mass of brilliantly-coloured flowers, that are so warm in hue that they seem to create heat of themselves, so refreshing are they to look upon when outside all is bare, cold, cheerless, and flowerless. Judging by the great variety found in the respective collections referred to, it would seem as if there were none that were not suitable for winter blooming, whether single or double. No doubt in winter the singles make the greatest show, as their fine bold petals give off colour reflection much more effectively than do the doubles; but these latter, all the same, are excellent, and for cutting purposes certainly are most satisfactory. It cannot be too widely known by all growers of these flowers of single form that a tiny drop of adhesive gum dropped into the eye of each flower soon dries, and thus holds the petals secure for some time after cutting. Really we have no winter-blooming plants suitable for an ordinary warm greenhouse that give rich, or even pure, refined colouring so effectively as do Zonal Pelargoniums. Amongst varieties that were in free bloom at Bickley when recently seen were: Whites, Guinévere, Mary Beaton, Sir Perceval, and Snowstorm. A lively blush was Dorothy Burrows. Conspicuous flowers, having pale margins and deeper coloured centres, were Mrs. Simpson, Mrs. Gordon Lindsay, Beauty of Kent, and Mrs. Norman. Salmon and cerise, lovely hues in these flowers, were evidenced by Phyllis, Clarence, Mr. Berry, and George Reed, the latter having in it a shade of orange. Pinks were Gertrude, Mrs. Brown Potter, Lilacina Improved, and Heliotrope. Other beautiful



PERSIMMON. (About one-third natural size of fruit photographed.)



FLOWER SPRAY OF PASSIFLORA QUADRANGULARIS

colours were found in Olivia, violet shaded cerise; Senebia, clear rose; Coleridge, red-flaked white; Lord Kitchener, orange-scarlet; Herrick, bright scarlet; Charles Mason, rich ditto; John Milton, Mrs. Cordon, and other scarlets of deeper shades. Lilian Duff, Souvenir de W. J. Miller, Trilby, and Volcandic were brilliant crimsons. Mr. Tredway, Iris, Dr. E. Rawson, and Mrs. H. J. Jones were of rich purple or violet shades. Here are named some thirty varieties, and it would be easy to find even fifty others all as good or nearly so, and all as amenable to culture for winter blooming. Their culture is, after all, simple. Stout young tips are taken from off these flowering plants in February, rooted in 5-inch pots in sandy soil, and placed in a little bottom heat. When rooted well they are turned out of the pots, each plant being then shifted into a small one singly, the compost being light, one half loam, the rest leaf soil and sand. Stood on a shelf near the glass growth soon ensues, and in a few weeks the plants can go into 3-inch pots, and again shortly from these into 6-inch pots, in which they will bloom. For this final potting the compost should be of two-thirds turfy loam, the rest being old hotbed manure, well-decayed leaf soil, a little bone-dust, and some sharp sand. In this potting also the soil should be made quite firm. A week later, or about the second week in June, the plants should be stood out of doors in the sunshine, and will be best on a bed of ashes, the pots being partially buried in it. Water must be given as needed, and the points of the shoots occasionally pinched out, as also all flowering buds. In August a little weak liquid manure may be given once or twice a week, and at the end of the month pinching must cease. The plants should be got into a light, clean, airy,

yet warm greenhouse, to bloom at the end of September. A. DEAN.

MAKING HEATH TURF.

To preserve the Heather around our houses, where Nature has entrusted us with it, seems to be a matter of importance. To do this we are confronted by no insurmountable difficulty. Where we desire to promote its natural growth we have only to reap it, as it were, with a hook, and this every *third* year, any time between the beginning of November and the end of February, at once removing from the ground all the cuttings.

But where we desire to have a thick carpet of the lovely blossoms over which one can stroll at leisure, while we unconsciously delight in both colour and perfume, we must treat the plant differently. In this case, we must, of course, *begin* to cultivate it by cutting it close to the ground, and not only carrying away the severed branches, but uprooting all the Gorse, dying Grass, and Bracken which may be about its roots; in fact, we must thoroughly clean the plot in question.

After this we have only to have it cut with either scythe or reaping hook, both late in November and early in March, allowing every severed sprig to lie for all time where it has fallen. No sweeping to be allowed, but the free use of the roller should follow every downpour until March.

To eradicate the Bracken, a sharp long-handled spud should be applied (delightful outdoor work for ladies) to the young shoots every spring time for three seasons, after which it will be a thing of the past. To get the flowering Grasses out (short green Grass does not matter) we must industriously pull up their roots after rain, before the reaping, and before the roller is used. M. M. B.

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

WORK IN THE FLOWER GARDEN AND PLEASURE GROUNDS.

BYOND the necessary clearing up, work will now be governed by the weather, and the careful gardener will suspend all planting operations and prospective alterations of any kind for fear of being brought to a standstill by sharp frosts. Should, however, the present mild weather continue there will be found many little odds and ends of work that may be done now, the doing of which will ease matters later on when winter breaks and the press of work becomes great. If turf has to be lifted and relaid, no more should be done at once than can be dealt with in a day, as sudden change of weather is only to be expected, and rolled turf kept in that state for weeks on end is not easily relaid and becomes much discoloured.

New laid turf to form edges to beds or walks should always be allowed to overlap a couple of inches or more, and this overlap should not be cut away until the turf has settled well into position; indeed, the longer the "edging up" is deferred the more satisfactory will be the result.

MULCHING HARDY PLANTS.

Any hardy plants that may in the course of alterations have to be moved and replanted should have a heavy mulching after planting, so that the ground may not be frozen hard around them; but it is well to defer all planting yet remaining to be done until spring, for new roots will not form now, and inactivity leads to decay.

PROTECTION.

Many plants not quite hardy in the ordinary sense of the term may be rendered safe from frost by the use of some easily applied protective material, and many quite hardy things, such as Chimonanthus, Violets, Christmas and Lenten Roses, and some Irises, which flower in winter or early in spring, can only preserve their flowers in full beauty under some form of protection from bad weather. The Hellebores should only have overhead covering, for if fresh air is entirely excluded the flowers come poor in colour; hand-lights set on bricks are very good for single clumps, but beds of plants may be covered with ordinary lights and mats or straw hurdles. For herbaceous plants known to have a tendency to die out in winter, I have found nothing so good as to heap over the stools with coal ashes, forming quite a pointed heap. These heaps do not get frozen hard throughout, and appear to have a good influence even beyond that of mere protection. It is a common mistake to cut away some of the leaves of Kniphofias, or Tritomas as they were formerly known, a worse thing could scarcely happen to them. All the leaves should be retained, and before sharp frost occurs each plant or individual crown should have its leaves twisted tightly in a bunch and tied upright to a stake. This preserves the crown and the collar, though as an extra precaution ashes may be put round the latter. Where game is plentiful another form of protection is needed to keep bulbs safe. My way of doing this is to cut pieces of galvanised netting into squares big enough to cover one clump each, and to drop these flat on the ground with a peg stuck through to hold them. This also baffles rats and field moles. J. C. TALLACK.

Shipley Hall Gardens, Derby.

FRUIT GARDEN.

FIGS IN POTS.

THERE is no better time in the year than the early part of January to start pot Figs for fruiting in May. I am aware Figs can be grown in a shorter time than the period noted above, but there is no gain in hard forcing; indeed, the reverse, as plants brought on gently give much finer fruits, and there is better quality, and fewer losses through premature ripening. As regards varieties for first supplies the St. John's and Pingo de Mel are among the best. I do not mean the best flavoured, but the kinds named force so easily. But now with the new year commenced and lengthening days those noted for their good flavour, such as Brown Turkey and Bourjassotte Grise, force well; the earlier kinds are best for very early supplies. At the start avoid a high temperature, 50° to 55° at night, with a rise of 10° by day, being ample. If bottom heat can be afforded pot plants so much the better, but it is not essential, as fine produce from permanent trees can be grown without this aid. For our early pot plants we plunge the pots in beds of warm leaves. This moist, gentle heat just suits the Figs, and later on, as the fruits are swelling with large plants, there is a great saving of labour by having the plants plunged. In fine weather the trees should be damped overhead daily with tepid water, but as more foliage is made more care is needed in syringing. In dull weather the leaves rust badly. Very little water will be needed at the roots for the first few weeks, and what is given should be of the same temperature as the house.

SUCCESSION HOUSES—PRUNING AND PLANTING.

Of late years the Fig has become a greater favourite, and grown as a permanent tree it gives a good return without hard forcing or at great cost. When planted out there are failures owing to the cultivator treating them too well, as some of the best Figs grown need severe root restriction, slow forcing, and, of course, with a small root space ample feeding. The varieties I allude to as needing the above care are Negro Largo, Nebian or Grosse Verte, and Gourand Noir. These are black varieties, and all need root curtailment, so that in planting this should be borne in mind. On the other hand, by the above advice I do not mean starving the trees, as the roots, being in a small space, will require more feeding at the time the trees are in full bearing. I need not go into these latter details; merely moisten the roots, as now is the time to make good any defects. Root prune if necessary and give new soil. Trees of the above varieties with a full root run and that have failed to bear freely may have their roots shortened before starting the trees into growth. The new soil added should consist largely of old mortar rubble or chalk, burnt ashes or refuse, and good loam, the whole well rammed as the work proceeds. I have seen barren trees taken out of position, the border much reduced, and the trees crop the next season. There can be no question whatever but that the Brown Turkey is the best all-round Fig grown, and in making new quarters for these fruits this variety should be given first place. Few exceed it in cropping qualities, and it is of good flavour.

LATER FIGS.

In my earlier note I briefly touched upon pot trees for early supplies, and for very late supplies also I prefer pot plants, but this is not the season to dwell upon the latter. At this date the permanent trees for a late summer supply should now receive attention. All pruning should be completed at an early date, and the house thoroughly cleansed, and, if possible, lime-washed. These trees are more subject to scale than most fruits, and there is no better time to cleanse them than when at rest. For washing purposes Gishurst Compound, an old but good insecticide, is most useful, and if the Gishurst is well rubbed into the joints with a soft brush and allowed to remain a short time it softens the scale and is more readily removed. In pruning it is well to cut out a good portion of old wood that is somewhat bare, and doing this allows the fruiting branches more room. With crowded branches the fruits will be smaller, and there must be free exposure of young wood. At this date it is a good plan to top-dress borders, and for this purpose a richer compost may be used. Bonemeal is a good fertiliser, a liberal quantity being mixed with new soil. After cleaning, the houses should be well ventilated, and trees on back walls should not get soddened by rain. Fig trees in glass cases or with glass copings, especially the last-named, should be pruned later. Any replanting should be done before the sap begins to flow. Now is a good time to propagate from eyes or pieces of last year's wood from well-matured shoots, removing the lower eyes before inserting the cuttings. G. WYTHES.

Syon House Gardens, Brentford.

INDOOR GARDEN.

THE present is a somewhat dull season for plants under glass, as many things having done their service are now at rest, or at least in a quiescent state. This is a decided advantage to the cultivator, as it gives him breathing time so to speak. The past season's productions may be carefully gone over and a balance struck, if I may use the term, in reference to plant culture. It would, indeed, be an unique experience if the past year, upon being carefully scrutinised, were without its failures; these should be duly studied, and an endeavour made in the future to avoid such. Of course, we may reduce these failures and mitigate the effects of the remainder, but I am not at all sanguine that we will experience the vicissitudes of the coming year without having some hitches, as there are so very many agents of a more or less

detrimental character with which the grower has to contend, chief among which are aphids. The destruction of these forms a large share of the work under glass, for they are a source of incessant annoyance to the principal. Advantage should at this season be taken to thoroughly cleanse all foliage plants; there are many chances in favour of this being done now, work is not so pressing as it will be from this month onward. Temperatures being reduced, there is less disposition on the part of insect life to increase its numbers, and the foliage being of a tough and mature nature and the almost entire absence of young leaves, makes the process of cleaning more easy and likewise more thorough.

I am not at all in favour of strong measures in the use of insecticides—in fact, we rarely use anything else than soft soap and rain water. With this simple wash it is highly essential that every portion of the plant should be most carefully gone over, and I am of opinion that in this lays the chief factor in plant washing. In working amongst the various classes of plants it may be an advantage, where early propagation is anticipated, to place those together which are to be cut up first, as this will prevent the disarrangement of the main body at the time it is decided to propagate. Dracenas, Codieums, Aralias, Pandanus, &c., which lend themselves to early propagation, should be thus treated.

Another factor that plays a very prominent part in plant culture, and which on no account should be overlooked, is that of soils and pots. I will presume the loam stack has been replenished some time ago; if not, then no time should be lost in having a fresh stock cut from old pasture and duly stacked up, grass side downwards. A thin layer of horse manure placed between the turves as they are built will help to enrich the soil and assist in decaying the grassy surfaces of the turves. The stack should be so constructed that while it is fully exposed to solar influences no rain should find its way into the body of it. A small portion of leaf soil should be duly passed through a large mesh sieve and put into an open shed. I find in this case it is better to use the leaf soil fresh from the leaf heap as it is required. A portion of lime rubble should also find its way into the position usually allotted this. Advantage should be taken of bad weather to employ the outside labour in washing the necessary drainage termed crocks. This, though seemingly a simple matter, must be attended to if the best possible results are expected. From these remarks it necessarily follows that the flower-pots should be used in a perfectly clean state, therefore all pots which are empty at present should be thoroughly overhauled, washed, and stored away in the pot shed in their respective sizes until such time as they are wanted. I use chiefly flower-pots sold by Messrs. Sankey, of Nottingham; these are light, well made, and neat. Further, I find plants grow extremely well in them. J. F. McLEOD.

Dorset House Gardens, Roehampton.

KITCHEN GARDEN.

IN anticipation of severe weather directions have been repeatedly given for the protection of vegetables likely to suffer from frost. Their succulent nature, consequent on the mildness of the season, renders forethought necessary in order that the best means at our disposal may be employed, and so avert by precautionary measures the ill that would be wrought by an unfavourable climate. In the selection and preparation of ground for early crops, which should be pushed forward without delay, Peas may have the first place, and the first sowing made in a sheltered position as early in the year as the state of the soil will permit, remembering that unless the soil is moderately light and dry the operation is better deferred a few days longer; cold, wet soil is undoubtedly the cause of many failures. On the selection of varieties for early sowing a great deal depends. Chelsea Gem and Carter's First Crop have been selected for first sowing here in the open ground, and Harbinger for pots and frames. The first sowing at Frogmore is generally made in narrow borders under a south

wall and in front of forcing houses; the borders are 1 foot wide, and are filled with old potting soil, underneath which is a layer of well decomposed manure. This mode of early Pea culture has invariably proved a success, the readiness with which protection can be given in case of spring frost being a great consideration. We have sown our first lot of Chelsea Gem, and hope to gather about May 20.

EARLY CARROTS IN FRAMES.

To obtain early Carrots, which are generally in great demand, it is necessary to sow in pits where a lasting bottom heat can be maintained, and no time should be lost in the preparation of the bed. This should be composed of three parts leaves to one stable manure, and trodden as firm as possible, so that no uneven sinking of the bed will take place. The soil should be rich and light, and a depth of 8 inches should be given in order to reduce the necessity of frequent watering. After being on the bed a few days the soil must be made moderately firm, when the seed may be sown either broadcast or in rows 6 inches apart, and covered over lightly with fine sifted soil, which should be in such condition as to render immediate watering unnecessary. When the Carrots begin to show they should be sprinkled with soft water, and air given on all favourable occasions to prevent the young plants from becoming drawn. Thin when large enough to 2 inches or 3 inches apart, and protect from frost. Parisian Forcing and French Forcing are the best varieties for very early work.

POTATOES IN FRAMES AND IN POTS.

Ordinary hotbeds in heated pits are best adapted for the successful cultivation of early Potatoes, the sets of which may be started in shallow trays while the preparation of the bed is going on. Loam that has been in use in a Melon or Cucumber house, with the addition of a little spent manure from the Mushroom bed, will suit them well. They may be planted in rows 18 inches apart and 1 foot between the sets. Sufficient air must at all times be given to ensure sturdy growth, and only short-topped varieties grown. Sharpe's Victor and Veitch's Improved Ashleaf are amongst the best for forcing purposes. Where pot culture is most convenient 9-inch pots should be used, and one set in each will be sufficient. The pots should be crocked and filled half full of light rich soil, with a sprinkling of bone-dust over the crocks. When the plants have advanced sufficiently they may be earthed up to within 1 inch of the top, thus leaving enough room for watering. Avoid a close atmosphere, and give plenty of light. A Peach house shelf or any similar situation will suit them admirably, care being taken that plants in exposed positions do not suffer from want of water.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

CHRYSANTHEMUMS.

CLOSE attention must be paid to the cuttings now in course of propagation. Some varieties root more quickly than others. These should be removed immediately they begin to make young growth into another frame in the same house, which can be ventilated much more freely, and after a few days the lights may be removed altogether. It is most important that the young growth at this stage—and, indeed, at any other—is strong and sturdy. Coddling should be guarded against; and I have often pointed out that Chrysanthemums can hardly be grown too strong, I care not for what purpose when flowers of the finest quality are required, providing that the strength is gradually made up, which should be from the commencement. Consequently, abundance of air must be afforded them immediately they are sufficiently rooted; but at the same time it is equally bad to rush from one extreme to the other, and the cultivator must be guided to a great extent by the influence of the weather and the temperature in which the plants are placed. Always remember that light and air, when under glass, will play a most important part as to the final result. Endeavour to nurse along those in a

more backward condition as quickly as possible so that the whole of the collection may be treated under the same conditions as soon as possible.

POMPON AND POMPON ANEMONES.

Cuttings of these should now be put in. They may be either struck singly in 2½-inch pots as advised for the larger flowering kinds, or place three round the outside of small 3-inch pots and rooted in the propagating frame. These deserve extended cultivation. Good selections, when well grown, are most beautiful and interesting, and for home decoration are most serviceable.

SPECIMEN PLANTS.

Large and highly furnished plants of these, unfortunately, are seldom seen now; nevertheless, when they are met with under the best conditions, either at our exhibitions or arranged at home in suitable structures, there is something noble and grand about them. I do not mean large, over-trained, flat plants—carrying, perhaps, 200 or 300 miserable blooms—there is no beauty or culture in such. Medium-sized plants, with from 60 to 100 good blooms that would not disgrace a stand of cut flowers, with good bright, clean, healthy foliage, and trained in as natural a manner as possible, are objects of much beauty, and prove that the producer of such is a good plantsman and deserves all the credit so generously bestowed on him; but to obtain such results a long season of growth is necessary. No time must be lost in pushing these forward. Some growers prune back and grow on their old plants much in the same way as show and fancy Pelargoniums are treated. I have practised this myself with fairly good results, but I was never able to produce such high quality blooms as from young plants.

THE SELECTION OF VARIETIES

is of the utmost importance, either in the case of Incurved, Japanese, or Pompons, as many kinds are totally unfit for making specimen plants. Those kinds which are naturally inclined to grow in bush form are generally best suited for this purpose. Select a good range of colours, which in each case should include a pure white, bright yellow, and a good crimson; dull lilac shades should be avoided as much as possible. Specimen plants should always show a clear stem of about 6 inches, especially when intended for competition, whether this is stated in the rules or not. I have seen many disputes arise respecting this, consequently before pinching out the points the plants should attain a height of from 6 inches to 7 inches. Strong, vigorous plants from the earliest struck batch should be selected and grown on as speedily as possible. Never allow them to become severely pot-bound, but shift on in a good compost as soon as ready. Fumigate often to rid them of any insect pest, and dust occasionally with sulphur to keep mildew at bay.

E. BECKETT.

THE ROSE GARDEN

RIDGING GROUND FOR SPRING PLANTING.

THE benefits obtained from this old practice are not fully recognised even yet. If more of it were done, especially where it is intended to plant out small-rooted cuttings in the spring or stocks for budding, better results would follow. It is now a good time to perform the work, so that the land may receive the benefits of searching winds and frosts. Old gardeners will often exclaim that ridging land is productive of as much benefit as a dressing of manure. Should the land be sour from over-manuring or other causes, a dressing of slaked lime or chalk is most beneficial, and there is no better time to apply it than the present, incorporating it with the soil when ridging. A safe quantity is about 6ozs. of lime

or 2lbs. of chalk per square yard. The latter should be broken up into small lumps. There need be no great hurry in planting in the spring if the land is ridged. March is a good month as a rule. If February planting be adopted for small stuff, severe frosts following will almost force them out of the land. If such plantations are compared to those accomplished later the latter will be found to be the best. When the soil commences to become warm in March and April the tiny new rootlets lay hold of it at once. Some spent hotbed manure or peat moss litter worked into the surface soil before planting will be found an excellent practice, and one which the small plants fully appreciate. Plantations of Tea Roses made upon soil thus ridged, and planted as late as the middle of April, have proved a great success. Not only do they thrive well, but they give us their blossom at an intermediate season, when the established Roses are just going off bloom and before the second crop comes on.

PLANTING SHORT HEDGE BRIARS NEAR WALLS.

I would strongly advise this practice to obtain a few glorious flowers of very choice Tea kinds. Many fail to grow the exquisite Comtesse de Nadaillac or the superb Souvenir d'Elise Vardon in the open border, but by budding such upon a well-developed short Briar planted near a wall so that the Briar need not be disturbed a grand plant will be secured. Of course the border should be well prepared before planting the Briars, quite as much so as if one were planting a cultivated Rose.

SOIL FOR PROTECTING DWARF TEA ROSES

should now be placed around the base of the bushes to a depth of 2 inches or 3 inches. Then by having a supply of dry bracken Fern, evergreen boughs, or dry straw at hand to stick amongst the branches when winter is upon us, the rosarian may rest assured that his favourites will not materially suffer, though the weather be ever so severe. Standard Teas are more difficult to protect. I think if I had only a few I should heel them in under a north wall, unless the plants were very old. It is the alternate thawing and freezing that plays such havoc with these and other half-hardy subjects. By placing them under a north wall away from the winter's sun this is to a great extent obviated. If the lifting be not practicable, the

next best plan is to thatch them with dry straw in the best manner available. Three or four bent over so that their stems can be tied together and their heads protected under one thatching has been found an admirable plan. It is certainly the best way to protect dormant Tea buds when budded upon Standard Briars.

CLIMBING TEA AND NOISETTES ON WALLS

are best protected with evergreen boughs and mats.

ROSES GROWN AS PILLARS

or trained over pergolas or upon walls, if they exhibit signs of debility, may be considerably assisted just now by removing the old worn-out soil beneath and around the roots, and replacing this with good loam and farmyard manure in the proportion of two of the former to one of the latter. With care the roots need not be disturbed to any great extent, for it will not be needful to go immediately near them, as next summer the feeders will soon seek out the new food given. This opportunity should be taken of root-pruning any coarse roots that appear to be striking down into the cold subsoil. Roses potted up in October and those repotted should now be brought under cover away from heavy rains and frosts, otherwise keep them as cool as possible till January, when they may be pruned.

LABELLING

should be seen to during these dull months. It is very pleasant to know the names of every Rose in the garden. One often observes the paper tally which the nurseryman supplied with the plant flying about upon the plant in the summer. The "Acme" label is the ideal one for Roses. Where a bed of a kind is planted the "Acme" on short legs are best. This label has raised letters, and is made of metal which may be kept bright by rubbing over now and then with glass-paper.

PHILOMEL.

GROUPS OF IRISES.

GARDENS that are not closely restricted in space, are much enriched by having flower borders of which the members of one good family of plants at a time are the main occupants. Of these, one of the most desirable



MASSSES OF FLAG IRIS.

is a border of Irises. Within this one group of plants alone, there is a large range of beautiful flowering things, whose compass of blooming time covers many months of the year, and this can be further extended to autumn by the intergrouping with it of some other allied class of plant, such as the Lily family. Nothing could well be better in an important border than those two in good quantity, with liberal interplanting of suitable foliage.

TREES AND SHRUBS.

TREES AND SHRUBS WITH RICH FOLIAGE FOR WATERSIDE PLANTING.

ALTHOUGH for this use there is a wide range of trees and shrubs to select from, there are a few, I think, deserving of special mention, owing to their value in giving beautiful colour effects in the autumn. The autumn foliage of these, if the planting and grouping is done with judgment, does much to beautify and light up the landscape. Some few of them associate well with other trees and shrubs for ornamenting the pleasure grounds and shrubberies, but care should be taken to avoid planting them as single specimens, and it is only when they are planted by the side of running streams and the margins of lakes in full sunlight that they are seen at their best. Such a position suits them admirably, and the moisture the roots naturally obtain does not affect the colouring of the foliage in the slightest degree.

The list I am about to give is not a long one, and the foremost position in it must be given to *Berberis Thunbergi*. This is a dwarf-growing shrub, with a rather spreading habit. It flowers freely in the spring, the colour of the bloom is a reddish brown, and it is produced throughout the whole length of every particle of the previous year's growth. As autumn approaches the green leaves gradually assume a brilliant orange-scarlet, and when grown as it should be in a mass the effect is extremely beautiful. Any ordinary soil suits this shrub, and it is quite hardy. The Dogwoods come next. Of these there are many varieties, but the best for this purpose are *Cornus mascula*, *C. sibirica elegantissima*, and *C. sibirica variegata*. The first is a well known shrub, and is a strong grower; the stems and the bark of the young wood turn a bronzy red in autumn; the foliage also becomes tinged with red, deepening in colour as the autumn advances. The second is a gem, for the foliage by the middle of October more nearly resembles that of a tricolor *Pelargonium* than anything else, being a combination of creamy white, bronze, green, and red. The bark of the young wood also takes on a rich warm tint. It is a medium grower, and should be planted in good bold groups to give full effect to its handsomely coloured leaves. The variegated Dogwood is a very moderate grower, and is chiefly useful for edging groups of *C. mascula*, the one forming a pleasant contrast to the other. The leaves do not change colour, but the bark of the young wood does, and becomes of a purplish red tone. When these Dogwoods are grown simply for the sake of their fine masses of coloured foliage in autumn it is a good plan to cut them back every other year, when the stools will throw up strong growths with large leaves. After the leaves have fallen the light colour of bark on stems and twigs furnishes a pleasing picture through the winter months.

The golden and silver Elders are the next to be mentioned. Of the first there are two varieties, namely, *Sambucus aurea nova* and *S. aurea laciniatus*. The latter is a beautifully cut-leaved form, but it must have all the sunlight possible to bring out its rich golden colouring. The foliage of this variety is not so graceful, but it takes on a good colour. A group of from three to five bushes

presents a bright appearance when viewed from a distance. Both of these Elders give the best results when pruned back annually, as the colouring of the leaves is then so much richer. The other variety of Elder to be named is the silver-leaved kind (*S. foliis argenteus*). The habit of growth is similar to that of the others, but the leaves are streaked with silver variegation, which, though less showy than the golden varieties, is of distinct value for the waterside.

The two then calling for special notice are the golden and scarlet Willows (*Salix aurea* and *S. cardinalis*). The latter is, of course, the brightest and most highly coloured, as the bark becomes bright red by the end of autumn, and the colour remains good throughout the winter months. The golden Willow is very beautiful also, and clumps of it and those before-named look well planted close to the water's edge. Any class of soil will suit these Willows, no matter how poor it may be. No shrub is more easily propagated. If grown in groups they should be cut back in the early spring, when the prunings provide an easy means of increasing the stock.

A. WARD.

Trent Park Gardens, New Barnet.



ROSE BLAIRI NO. 2 TRAINED DOWN.

ONE WAY OF TRAINING A ROSE.

Of course in growing standard Roses, to ensure quality, it is necessary not to omit the annual pruning; but to the lover of the uncommon a free-growing Rose, treated as was the one depicted in the illustration, will yield a deal of pleasure. Instead of pruning, each growth was allowed to flourish and was trained down to the ground.

The Rose in question is the blush pink *Blairi* No. 2; it is very free in growth, and enjoys full sunshine. When photographed it was 4½ feet high and 6 feet in circumference. One day during the height of its blooming season over 650 full blooms were counted upon it, and, as may be imagined, the sight was a grand one, giving the impression of a huge green cushion studded with giant pins. It was grown in a suburb of Torquay.

W. J. ROBERTS.

NOTES ON LILIES.

LILIUM CANDIDUM.

SINCE I wrote, early in August, a note on the difficulty, if not impossibility, of laying down a hard-and-fast rule as to the conditions requisite for obtaining the best results from this most desirable of all the Lilies, several communications have appeared which tend to support my contention. In my former note I quoted from correspondents who had successfully grown the *Madonna Lily* "on the slope of a hot, dry garden in full sunshine," "in heavy marsh land with water very near the surface," and "in a shady position." Since then instances have been given where it has enjoyed vigorous health in exceptionally dry soil; in exceptionally retentive soil; in hot, sandy soil; in deep, rich soil with copious supplies of water; and in peat.

In most cases manure in any form is held to be harmful, but in one the plants were watered during the summer with liquid fertiliser and mulched in the winter with horse manure with the best results. "H." (page 378) writes: "The great essential to success is to leave the bulbs alone." I imagine that no one in whose garden this peerless Lily attained its fullest perfection would endanger this happy consummation by disturbing the bulbs as long as they showed no signs of failing health. It is not, however, these fortunate individuals who seek advice, but the many who, do what they will, are unable to grow the Lily successfully. For such to leave the unsatisfactory bulbs undisturbed year after year would be to relinquish the attempt to compass ultimate victory, and they can but continue to try varied conditions of soil and exposure in the endeavour to surmount their difficulty. It would be worth the while of those whose Lilies fall a prey to the disease to try the experiment of procuring bulbs from some cottage garden in which they have flourished for uncounted years, for I have more than once related in these columns my experience of such bulbs blossoming in unblemished beauty, while the flower-stems of a row of over a hundred imported bulbs were levelled to the earth by the malady.

LILIUM PARRYI

I HAVE read with much interest Captain S. G. Reid's letter (page 367) relating his successful experience with the beautiful *Lilium Parryi*, a Lily that I have never been able to establish. From the account of the behaviour of these Lilies they appear to be firmly established, and one would say that their fortunate owner might confidently anticipate an even finer display in the coming summer. That such may be the case will certainly be the hope of all readers of THE GARDEN who are lovers of Lilies, and I trust that Captain Reid will keep us duly informed of subsequent developments.

S. W. F.

COLOURED PLATE

PLATE 1258.

NYMPHÆA FROEBELI.

NYMPHÆA FROEBELI is noteworthy as being the only European representative of the new race of hardy Water Lilies that has not come from the now famous *Nymphaea* nursery in the south-east of France. The honour of introducing it belongs to M. Froebel, of Zurich, who tells us that he raised it from the seed of *N. alba rosea* (N. Caspary), the rose-coloured Water Lily of northern Europe. It is interesting to know that of hundreds—probably thousands—of seedlings raised by M. Froebel from *N. Caspary*,

January 5, 1901.



NYMPHÆA FRŒBELII

this is the only one that possessed any distinct merit. Would that we could persuade M. Latour Marliac to take us into his confidence and tell us the origin of his beautiful race of *Nymphæas* that add so much charm and variety to our gardens! From the scientific point of view our loss is great. We indulge in speculations that have hitherto proved fruitless, and cannot solve the problem at issue how such wonderful results have been attained. *N. Froebeli* is similar to *N. Caspary* in that it is not a strong grower. It increases but slowly compared with most of the French hybrids, and will therefore be found

SUITABLE FOR TANKS OR SMALL FOUNTAIN BASINS OR TUBS.

It is not likely to quickly outgrow the space allotted to it. It requires to be grown for one or two more seasons before its characteristics in this respect can be exactly stated, but we should be inclined to place it in a position intermediate between the odorato section and *N. Laydekeri rosea*. Although in this respect it resembles its parent, it has not inherited the characteristic of losing its leaves early in the season and ceasing to bloom by the end of July. *N. Froebeli* continues to flower until the end of September, and in a good season should begin in May.

As is evident from the illustration, the flowers are of medium size, very dark, and of a brilliant colour. In 1897, when first introduced, M. Froebel described it as the "darkest of all existing hardy Water Lilies." It is doubtful if this description would be true now, but it is certainly one of the darkest. It rivals in this respect *N. sanguinea* of Marliac and *N. Wm. Falconer*, from America, the claims of the former being fully established, whilst those of the latter need further trial.

The raiser's description continues: "The blooms are large, dark fiery carmine in colour, deep scarlet in the centre, and the stamens bright vermilion with yellow tips." The leaves are green. Through the kindness of M. Froebel I was able in the summer of 1899 to see this variety growing in the tank at Zurich along with several of the French hybrids, and it seemed worthy of the claims made on its behalf.

J. F. H.

AN ARTIST'S NOTE-BOOK.

TACSONIA MILITARIS.

THIS is a beautiful addition to greenhouse climbers. It was obtained by Messrs. F. Sander and Co. from a garden in the Transvaal, where it is said to have been raised from *T. insignis*, crossed with *T. Van Volxemi*.

Dr. Masters, however, suggests that *T. manicata* was used instead of *T. Van Volxemi*. He says: "The floral details do indeed suggest an infusion of *T. insignis* . . . but we doubt

whether the other parent was *T. Van Volxemi*. In some respects it suggests *T. manicata*."—*Gardeners' Chronicle*, 1899, xxvi., 484. Whatever its origin, and in these days of perfunctory plant breeding and indifference to correctness in plant nomenclature it is well not to dogmatise, *T. militaris* is quite distinct from all other garden Tacsonias. It was awarded a first-class certificate by the Royal Horticultural Society, on November 20, last year, when Messrs. F. Sander and Co. exhibited flowering shoots. It has large three-lobed serrated leaves, green and glabrous above, hairy beneath; flowers dependent on hairy stalks 5 inches long; tube short, smooth, inflated at the base and subtended by three ovate leafy bracts $1\frac{1}{2}$ inches long; limb 4 inches to 5 inches across,

and composed of ten radiating segments, each $\frac{1}{2}$ inch wide, and coloured bright rose-crimson, the outer ones green at the back; the small corona is purple, whilst the yellow stamens and three-rayed stigma are as in other Tacsonias. The season of flowering appears to be November, a time when the flowers will have an excep-



A NEW TACSONIA

(*T. MILITARIS*.)

(From a drawing

by

H. G. Morn.)

tional value. *Tasconias* appear to have fallen into neglect. True, *T. Van Volkemi* and *T. exoniensis* are grown here and there, and I have lately seen in a country garden a magnificent picture formed by a well flowered *T. insignis*; but there are other beautiful species, such as *T. ignea*, with flowers of a flaming scarlet colour; *T. quitensis* with long tubed rose-pink fragrant flowers; *T. manicata*, not unlike the plant here figured, but smaller in leaf and flower, the latter coloured bright crimson. These are all plants for the cool house or conservatory, where they will grow and flower freely if allowed plenty of light and air. All *Tasconias* are natives of tropical America. W. W.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

SOLANUM JASMINOIDES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The writer of the note on the above lovely flowering climber describes it as being "almost equally at home out of doors as under glass in the southern counties." This statement requires considerable amplification, as far as the south-west is concerned, in which district it may be unhesitatingly affirmed that this *Solanum* is far more at home, in the sense of displaying its natural beauties in the highest perfection, in the open than it can ever be under glass, unless grown in some such lofty structure as the temperate house at Kew. It is without doubt the finest flowering climber of the south-west on account of the lengthened period through which its flowers are produced, though in brilliance it does not rival such subjects as the *Bignonia*, *Clinanthus puniceus*, and *Cassia corymbosa*. I have known it commence to bloom towards the end of April and continue to bear flowers uninterruptedly until the second week of the succeeding February. At the time I write several plants in this neighbourhood are bearing bloom-clusters. When planted in good soil this *Solanum* is an extremely rapid grower, ascending to a height of from 25 feet to 30 feet in two years. "T. F. W.'s" counsel that this climber should not be stiffly tied-in, but permitted to express its natural form, should be followed as implicitly in the case of plants grown in the open as where they are cultivated under glass, for a specimen closely trained to the wall compares most unfavourably with one whose slender, swaying shoots, terminated with white flower-clusters, droop gracefully downward, forming through the summer and autumn a very cataract of blossom. In the south-west, *Solanum jasminoides* is widely distributed, being met with as frequently on cottage walls as on those of mansions, and in this district requires no winter protection either in heavy, retentive soils, or in those of a lighter nature. Some specimens were partially cut back by the severe weather experienced in the early part of 1895, but broke strongly in the spring and flowered well subsequently.

South Devon.

S. W. F.

AMATEURS' PERPLEXITIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—As a constant and admiring reader of *THE GARDEN*, and as one of a class which grows in number year by year, I venture to address to you a suggestion the acceptance of which would vastly improve the practical value and popularity of the journal. Who I may be matters not a whit, what I am matters a great deal. I am one of that huge class of men whom the ordinary business of life compels to live in London during the greater part of the year, but I possess also a small country house with a fairly spacious garden. Of the science of gardening I have a fair general knowledge, and for the pursuit of it an unbounded love, but I cannot spare the time for personal attention except

in the months of August and September, save that I snatch a few days for Rose and other planting in late autumn, and a week or so in spring. My gardener, who comes one day a week, is a wonderful worker, unsurpassable at vegetables, but absolutely regardless of the flowers, which he is forbidden to touch. Hence come constantly recurring difficulties. I should ask nothing better in this world than to tend my flowers in person all the year round, with the help of *THE GARDEN* and "The Century Book of Gardening," which I have found to be of more practical value than any other book which has come into my hands. But the one and the other urge a counsel of perfection; they assume the constant care which I should like to give; they forget the difficulties interposed by the cursed need of pence. May I conjure you to remember the necessities of my class at each season of the year? Perhaps my meaning may be best illustrated by a concrete example. Last year, as every year, I was compelled to move up to London at the beginning of October. I had as nice a little collection of Dahlias, Begonias, *Gladiolus gandavensis*, *Salvias* (patens), and *Tigridias* as the heart of man could desire; I knew that I ought to wait till the frost cut them, and did my best to store them, and ran down later and found them still blooming, but took them all up this time. The previous year I was compelled to take up the Begonias in pouring rain, to dry them in front of a fire at a respectful distance, and then to place them, leaves and all, on a staging of wire netting in a dark granary, and the losses were not very great. May I pray you to remember us in the autumn, and also to give us hints from time to time upon the arrangement of our gardens with a view to good effects in August and September.

TOWN MOUSE MIGRANT.

[Much as we wish to be of use to our readers, it is difficult to know how to help this querist. Had he signed himself "Bird," instead of "Mouse," his perplexities would have been minimised, as according to popular belief he would then have had a better chance of being in two places at once. This appears to be the root of his difficulty. An occupation that ties the owner to town, and a gardener forbidden to touch the flowers, are not the most favourable conditions for the flower garden's welfare. But we shall gladly keep in mind the wants of the many who are in much the same position, and can at least advise about the autumn garden. For this the most obvious materials are Dahlias, perennial Sunflowers, many of the well-known bedding plants, such as Geranium, Verbena (too much neglected), *Calceolaria*, *Heliotrope*, *Gladiolus*, and hardy Fuchsias. Then the earliest of the Michaelmas Daisies, and the most important of the half hardy annuals, as French and African Marigolds, China Asters, *Salpiglossis*, several of the *Solanums*, *Nicotiana affinis* and *syvestris*, Maize, *Nasturtiums*, and late sown Mignonette. It would be delightful to have the autumn garden in two main divisions for plants of warm and of cold colouring. A main flower border could be kept for all the warm coloured (red and yellow) flowers in the sunniest place, while some other portion, not far off and preferably screened from it, and perhaps best in half shade, would accommodate plants of cool colouring. What a grand cool planting one might make with *Heliotrope*, the early Michaelmas Daisies, *Clematis Jackmani*, and any other of white or lilac colouring, clustering masses of *Clematis Flammula* trained on short spray, white Comet Asters, some good variety of purple China Asters, and white *Marguerites*; and with these, plentiful plantings of grey and silvery foliage of *Santolina*, *Lavender*, *Cineraria maritima*, and *Centaurea ragusina*.—Eps.]

AUTUMN AND WINTER-FLOWERING SALVIAS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was much interested in "H. P.'s" note re *Salvia azurea grandiflora* syn. *Pitcheri*, and quite agree with all he says as to its attractiveness in the conservatory during dull autumn months. At this time of the year the *Chrysanthemum* is in such evidence that other beautiful flowers are apt

to be forgotten, and, consequently, they do not receive the attention their merits deserve. There are several kinds of *Salvia* which flower during the months of November, December, and January, but the above-mentioned, I think, is the most beautiful of all, and probably the least grown. This is to be deplored, as its colour alone, which is a lovely azure blue, as its name suggests, should ensure it a place in every garden. *S. Betheli*, too, is a very old and valued friend of the garden, and very useful for cutting for large glasses. *S. splendens* has been too often mentioned in the pages of *THE GARDEN* to need comment here, but another beautiful kind very rarely met with is *S. Heeri*, which is just opening its flowers; its colour is scarlet, and this, together with the lateness of its flowering, increases its value for the conservatory and indoor decoration, for which it is admirably adapted. The requirements of all these *Salvias* are so easily met that anyone who has the least pretension of glass can grow them. H.

LILIUM NEPALENSE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Your correspondent "T." in a recent number of *THE GARDEN* seems to find *Lilium nepalense* uncertain as to its length of life. My own bulb was bought four years back and planted in cool sandy peat, sheltered by *Rhododendrons*. The first year I had one bloom, the next three, and this season eight. Among fifty varieties of the Lily family, it is quite one of my best doers. I find *L. neigheerense* (which began as a very small bulb) steadily increasing. *L. wallichianum* (growing in sandy rotten turf) and *L. polyphyllum* are both doing well. Of course we have a favourable climate, which your correspondent may lack.

Newton Abbot, Devon.

G. L. PATEY.

FLOWERS IN CUMBERLAND.

THE SUMMER-LIKE WEATHER.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It may interest your readers to know that recently I found two full-blown well developed flowers of Winter Aconite in my north country garden. December 18 is an early date for this flower to be out, but the mild season is bringing everything in rather too soon. There are two *Hepaticas* in the garden with flowers upon them, and *Anemone blanda alba* is well above ground with buds ready to open. I also cut several blooms from *Doronicum Harpur Crewe*. This has been in flower since they began to come out last March. Arum Lilies have behaved much in the same way this year. I am now cutting fine spathes from plants which flowered from February to June; they were then put outside, where occasional blossoms appeared all the summer long until they were again taken in.

Cumberland.

C. M.

EDIBLE PASSION FLOWER AND CAPE GOOSEBERRY IN QUEENSLAND.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I note in your late issues several references to the edible Passion Flower. This is now so thoroughly at home in Queensland as to grow wild in suitable localities such as we call "scrubs," semi-tropical jungle. The Passion Flower fruit is one of our favourite fruits, is to be found in all fruit shops, and is grown in large quantities. During the early part of the summer season it is largely exported to the Southern Australian colonies. It is a great factor in fruit salads. Another fruit now naturalised, and supplied to the markets in quantity both from wild and cultivated plants, is the Cape Gooseberry, a species of *Physalis*. It is bought by the ton for our jam factories. The Tomato runs wild, but always goes back to the little round original berry. It is a favourite fruit with many housewives for jam-making. A little *Orris Root* cut up with it develops a strong flavour of Strawberry. The Strawberry itself, for many years considered only as to be grown with difficulty, is now grown by the

acre in Southern Queensland, and the crop runs into tons. The varieties chiefly grown are Wollope's Victoria, Marguerites, and a local variety, Pinks' Prolific. The originator of this variety will be remembered as a raiser of Potatoes in England many years ago. Pines may be seen on their way to the markets and shipping wharves by the dray load.

GEORGE WATKINS.

Queen Street, Brisbane.

PLANTING TEA ROSES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—My raised beds of Tea Roses (dwarfs only) have been made in succession during the last ten years, and though many kinds, such as *Devoniensis* and *C. de Nadaillac*, have been cut quite to the ground in severe winters, the only losses have been *Niphetos*, which should scarcely be planted out of doors. The beds are made in September and planted in November, but they certainly sink here for eighteen months or so. I do not put the manure at the bottom and well tread it down, but mix it thoroughly (see Dean Hole's "Rose Book," page 101) with the loam, taking care when planting to surround the roots with loam so that they do not touch the manure until they find it later for themselves. I do not spread the roots out horizontally, but plant them as Briars grow, naturally, and as they have already grown in the nurseries. If carefully watered they grow and bloom best in hot summers. After the next severe winter we will hope to compare notes with Mr. Molyneux.

Surrey.

J. A. D.

ROSE SOUVENIR DE GABRIELLE DREVET.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I can fully endorse all that your correspondent Arthur R. Goodwin says about this beautiful Rose. He will find a note referring to it in *THE GARDEN*, vol. li., page 122. It is another proof that if one would possess good garden Roses reliance must not be absolutely placed upon varieties seen at exhibitions. Rarely is this fine Rose met with in a prize box, and, in fact, it is not even mentioned in the official catalogue of the National Rose Society, and yet, as your correspondent well remarks, it is a free grower, of good form, and very sweet. I do not go so far as to say its flowers are equal to those of *Cleopatra*, but I would not plant such a miserable grower as the latter whilst we have many exquisite Roses of the type of *Souvenir de Gabrielle Drevet*. It is comparatively an old Rose now, having been introduced by the raiser of most of our best Tea Roses (M. Guillot) so far back as 1885. Your correspondent is rather hard on *Comtesse Riza du Parc*. It is one of those Roses that should be planted in a mass. One must not look too critically at the formation of its flowers. Nevertheless, I am of opinion that *Comtesse Riza du Parc* will soon be superseded. Personally, I much prefer the exquisite China Rose *Irene Watts* to the latter variety.

PHILOMEL.

LAPAGERIAS IN THE OPEN.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—"T. W.," at the close of his article on *Lapageria rosea* (page 385), writes: "It would be interesting to hear from readers who have had experience in the outdoor cultivation of *Lapagerias* . . . if they really grow sufficiently well to be of value in the garden?" I am able to answer this question in the affirmative. I know of numerous instances in the south-west where *Lapagerias* are very decorative objects on north walls in the open during the autumnal months. In November, 1899, I forwarded to *THE GARDEN* a flower spray of *L. rosea*, cut from a plant growing at Gnaton Hall, near Plympton, mentioning at the same time that there were many finer bloom-trails hanging on the same plant but at too great a height to be accessible without a ladder. The editorial comment was "Splendid in colour and in all ways." This specimen is by no means an anomaly, as the plants flower

well into the winter, and only recently I saw several still in bloom. None but a northern exposure is suitable for the *Lapagerias*, as in any other position they suffer from the effects of the summer sun. In a porous compost of peat and loam freely mixed with nodules of charcoal and bits of broken sandstone, they grow vigorously, but as "T. W." remarks, "thorough drainage should be provided." If the drainage becomes choked the plants soon show signs of failing health, and eventually die unless the matter be speedily rectified. The original plant imported from Chili into Europe was, I believe, found to have been growing in adhesive clay, but the employment of such a staple would be fatal in this country. The worst enemy of the *Lapageria*, especially in the open, is the slug, which is inordinately fond of the thick, succulent shoots that are pushed up from the ground. Constant search should be made for these in order to locate them before they pierce the surface, when collars of perforated zinc or lamp chimneys placed over them will generally preserve them from harm. Should these shoots be eaten off, as they inevitably will be unless protected, the plant soon loses vitality. The southern coast line is not the only locality where the *Lapageria* succeeds in the open air, as I am informed that it has proved amenable to outdoor cultivation as far north as Wales.

South Devon.

S. W. F.

AMERICAN NOTES.

COLD STORAGE EXPERIMENTS.

COLD STORAGE EXPERIMENTS at the Kansas Station have resulted in the following table showing the temperature for preserving the different products, as well as the packages in which they should be stored, and the time they may be expected to keep, as follows:—

TEMPERATURE FOR PRESERVING DIFFERENT PRODUCTS.

Product.	Temp.	Package.	Time.
Apples, summer . . .	38 to 42°F.	..Brls. or boxes	2 to 4 mths.
Apples, winter . . .	32 to 35	.. " " "	5 to 8 "
Pears	33 to 38	.. " " "	2 to 3 "
Peaches	36 to 38	.. Crates	2 to 4 wks.
Grapes	38 to 40	..In sawdust in boxes	6 to 8 "
Plums	38 to 40	..Crates	2 to 4 "
Berries and Cherries . . .	40	..Quart boxes	1 to 3 "
Bananas	40	..Crates	8 to 12 "
Lemons, Oranges . . .	40	.. " " "	8 to 12 "
Figs, Raisins	40	.. Boxes	8 to 12 "
Water Melons	40	.. " " "	3 to 6 "
Musk Melons	40	.. " " "	2 to 3 "
Tomatoes	38 to 42	..Crates	2 to 4 "
Cucumbers	38 to 40	.. " " "	2 to 3 "
Celery	35	..Boxes	..
Cranberries	34 to 38	..Barrels	..
Onions	34 to 40	.. " " "	..
Potatoes	36 to 40	.. " " "	..
Asparagus, Cabbage . . .	34	..Boxes	..

—*Canadian Horticulturist*.

A JAR OF TIGER LILIES.

THE Tiger Lilies shown in the illustration were gathered in a cottage garden in a village not far from Great Yarmouth on the 8th of August. They were growing in a border in a mass about 9 feet wide and 20 feet long. Many of them must have been nearly 5 feet high, but the length of the stalks does not show here, as they had to be cut down to prevent their being top-heavy for the largest glass that could be found for them. They had travelled to North



A JAR OF TIGER LILIES.

Nottinghamshire, and been in water ten days when this photograph was taken. They lasted at least a week longer, the smallest buds coming out fully.

M. H. MASON.

TOWN GARDENING.

STREET PLANTING.

THERE are very few towns in this country where at the present time the authorities do not try to embellish their streets by planting a few trees. This is the only phase of gardening—if it can be designated as such—that many municipalities are able to take in hand, and therefore all the more reason that they should do it in the best possible manner. Unfortunately, trees are oftentimes planted in streets under the direction of persons quite unacquainted with their requirements, and who have no idea as to the suitability or otherwise of the species used. Even when practical men are responsible for this work it not unfrequently happens that the trees employed are not the best for the purpose—sometimes the reverse. This can only be accounted for by supposing that, like many more people, the planters of street trees have got into a certain groove from which it is difficult for them to deviate. As an instance, it may be mentioned that at Cardiff several years ago, although a great number of trees were planted in the streets annually,

NOTHING BUT LIMES WERE USED.

Apart from the monotony of such planting, the choice of the species in question was very far from being a good one. The Lime possesses many qualities fitted to make it an ideal street tree—it is cheap, its stem grows in thickness in proportion to the growth of its branches, and consequently the head is rarely broken off by the wind or the stem damaged by rubbing against its guard, and, lastly, it requires very little pruning, all of which qualifications are of the greatest value in a street tree. But set against these good points the habit it has of losing its leaves so early in the season (this is perhaps more marked in town than in the country, for

I have seen Limes quite bare early in August) and the dirty unsightly appearance of the foliage before falling, and it must be admitted that, notwithstanding its many recommendations, the Lime is not the most suitable tree for street planting. Being convinced of this fact, I have quite discarded the Lime from my list of street trees, and during the past ten years have not planted more than twenty, and then only for special reasons. In place of it we have used ten or eleven different species and varieties of trees, and have thus entirely changed the monotonous character of our street planting.

We find that trees bearing conspicuous flowers or fruits are not adapted for this work, as the town youths seem to be under the impression that such things can only be intended as targets for their stone throwing, and then householders who suffer in consequence from broken windows begin to complain. For this cause we have to exclude many fine trees from our list, such as the Horse and Spanish Chestnuts, several of the Pyrus and Prunus, all of which would otherwise be very useful for our purpose. The matter of cost also considerably limits the number of species at our disposal, for I make it a point never to pay more than 3s. 6d. or 4s. for any kind of tree that is to be planted in the street. The reason for this is that the "risk" is great—there are gas escapes to contend with which poison the soil, runaway horses invariably bringing their carts in contact with the stems, and last, but not least, is the mischievous, stone throwing, pocket-knife-using town youth, who has to be reckoned with as a very potent factor in the destruction of trees. During the last two years in the above-mentioned town more than 100 valuable young trees have been destroyed by boys, notwithstanding rewards offered for their detection.

PLANTING.

The earlier in the season street planting is done the better, as the ground being loosened by the planting takes up the winter rains, and thus enables the tree to stand a drought much better than when planted late, hence it is advisable to have this work completed by the middle of February. As we use iron tree guards we always plant trees having clean stems about 6 feet 6 inches high, with a branching head rising about another 3 feet or 4 feet higher. No streets are planted having a less width than 45 feet, and then only when the houses have a small garden in front of them, as our municipal authority believes—and rightly—that streets should not even be beautified at the expense of cutting off the light and free circulation of air from any houses. The trees are planted from 20 yards to 22 yards apart, and in such a manner that they do not come opposite one another on the different sides of the street.

THE WESTERN PLANE

is one of the best and quickest growing trees for town planting, and we have planted several hundred during the past few years. The Turkish Oak is another favourite, and when clean, free-growing young stuff is used the result is that strong self-supporting stems crowned with large and beautiful heads are soon developed, causing them to be one of the most admired of all our street trees. Unfortunately, for several years past it has been very difficult to obtain this Oak the requisite size. The Scarlet Oak, although having larger and in autumn better coloured foliage than the last, is inferior to it as a street tree, my experience being that it requires support for a much longer period, is more straggly in its growth, and does not assume a tree-like appearance so early in life. Where much planting is done, however, it is well worth a trial. Maples make good street trees, and both the common and variegated Sycamores, as well as several varieties of the Norway Maple, have been grown in our streets with success. The Birch, Elm—especially the Cornish—Ailantus, and Beech are all adapted for town planting, and have been tried at Cardiff with very satisfactory results. Neither have we been above using the Black Poplar in one district where the soil is nothing but a heavy clay and in which no other kind of tree would grow. It does remark-

ably well and greatly improves the appearance of the locality otherwise quite bare of trees.

PRUNING.

The pruning of street trees is a much debated subject, and the responsible authorities have often been severely criticised by the gardening press for the manner in which the London street trees are annually mutilated. I remember one editor asserting in connection with this matter, that if a tree could not be allowed to develop its natural character he would rather not see it grown in a street. This sentiment is all very well in its way, but it must be remembered that trees are not grown in streets as they are in parks, to develop into specimens, but simply as a means of ornamenting the town. In many instances it would be out of the question to allow trees to develop to their natural size, and under such circumstances it is much better to adopt a sensible style of pruning, to doing away with them altogether. Besides this, there is another reason which makes it necessary to prune certain kinds of trees when grown amidst such artificial surroundings. Those who grow the Plane know how, when in a young state, its head grows out of all proportion to the thickness of its stem, and how, during a storm, it is very apt to break away from its support. Trees of this description when growing in a park or garden are generally fastened up by wires, but in streets this is a matter of impossibility, and the only means of securing them is by tying them to stays on the tree guard, or at most to a stake driven into the ground within the guard. When heavy-headed trees break away from their stays, the continual rubbing which the stems receive by being blown against the guards during a single night's storm is sufficient to injure them beyond all recovery. If trees of this character are pruned, such risks are greatly minimised, and, although at one time I was against cutting in the branches of any street tree, I now regularly prune the Planes and Poplars every year, with the result that fewer are damaged than formerly.

As soon as our trees get strong enough—usually six years after planting—the iron guards are taken away from them and wire netting put around the stems to protect them from injury, and they are allowed to develop as naturally as circumstances will permit. The guards thus dispensed with when repaired are equal to new, and can be used over and over again, thereby doing away with one of the most expensive items in connection with street planting.

W. W. P.

THE FRUIT GARDEN.

PEAR LE LECTIER.

PROSPECTIVE planters would do well to note the merits of this Pear, as we have so few really good ones in December and later. In addition to its being a remarkably handsome fruit, its size should make it a favourite. I have heard mere size condemned, but I do not think such fruits as this need adverse comments, as a good looking Pear and something to look at as regards size will always tell; of course we do not want fruit equal to the largest Pitmaston Duchesse, but such Pears as Doyenné du Comice are never objected to, and Le Lectier is similar in size and appearance to a good Doyenné du Comice. I have grown this variety as a cordon, and thus managed it is remarkably fertile; it is also a free bearer in any form. In cold exposed situations a wall would be advisable, but in good soil and position it makes a good bush or pyramid, and gives a good return. The fruits are large and of beautiful shape, and have a mottled green skin which turns to yellow when full ripe, flesh melting quite free of grit, highly perfumed, and very juicy with first-rate flavour. The tree makes vigorous growth, being of erect habit, and should be given ample space. In the case of cordon trees we have found it necessary to lift every three years, as it grows so freely. I note the latter tendency, as in planting rich manures should be avoided. This variety is,

as its name implies, of continental origin, and was raised in France, but has been grown for several years in this country; it is the result of crossing the well-known Williams' Bon Chrétien (a great favourite for early supplies) with Bergamotte Fortunée, a French variety liked for its keeping properties; but as regards flavour Le Lectier more resembles the Williams, but is later. Its season is given as from December to March, and in the south we have had good fruits in January, but I fear most Pears are much earlier this season, and there is a tendency for all varieties to ripen before their usual time, which is unfortunate, as it will make good fruit very scarce later on. G. WYTHES.

Syon House Gardens, Brentford.

THE FERN GARDEN.

FERNS THAT REST IN WINTER.

MANY beautiful Ferns thrive well and even make finer fronds when grown in more heat than they receive in their natural habitats. This applies to their natural growing season—that is, during the early spring and summer. It must, however, be remembered that there are many which rest entirely during the autumn, and if these are kept in heat and forced into unnatural growth they may make a good growth for one season, but they will have used up all the vitality which should have remained dormant until the season comes round when almost all things start into new life. The consequence of starting Ferns prematurely is that they have not fully matured the functions necessary to keep up continued activity, and they have also the disadvantage of dull, dark days in which to prepare for another forced march, the consequence being that the spring growth is very weak, and it is not until late in the season that it becomes matured, and the crown or heart of the plant will become gradually weakened until life becomes quite extinct.

It is owing to the disregard to the necessity of a period of rest that many of our most beautiful Ferns are lost. It is easy to prove the above remarks by taking plants of any of the Pteris serrulata varieties. Place some in a cool house and keep them dormant, and others in heat. Those in heat will keep growing, and may make some fairly good fronds; but take those which have remained dormant, say, about February, place them in warmth, and they will soon start into vigorous growth and overtake those that have been in heat, and which by this time will have very weak crowns. It is not all Ferns which require this period of rest. Take the Aspleniums of the bulbiferum type; these continue to make satisfactory growth throughout the year, and it may be noticed that these develop only one frond at a time, or, rather, each frond is succeeded by another instead of a number being developed at the same period.

It is not only those with the tufted crowns which require rest, but many with spreading rhizomes. I could give no better example than Pteris scaberrima. This beautiful little Fern grows freely in a loamy compost in a cool, shady position, and in the spring warmth will assist in the development of good fronds, and, while it will not withstand frost, the cooler it can be kept during the winter the better. The finest specimen I remember was grown in a vinery. The heat given to start the Vines in spring was congenial to the Fern, while all the light and cool air in the autumn gave just the conditions essential to the period of rest. It may be noted here that our British Ferns all require a period of rest, and the conditions under which they grow in their natural habitats are similar to those suggested above—that is, they are provided with shade by the deciduous trees during the summer, and the leaves falling in the autumn leave the Ferns exposed to the light and also provide good material for the roots the following season.

I have often heard it remarked that the British Ferns, being quite hardy, do not require protection in winter, but when grown in pots or in the garden they are deprived of the natural protection provided by the surrounding vegetation, and are often in positions where they start into growth before their natural period, and suffer from frosts even in a wild state. I have seen the most beautiful Ferns ruined for the season by a late spring frost, and it is when they begin to unfold their new fronds that a little protection is most necessary.

A. HEMSLEY.

STOVE FERNS IN WINTER.

THOSE naturally requiring a higher temperature not infrequently suffer through giving too much heat during the dark days of November and December. The temperature should not fall much below 50° Fahr., and, of course, much depends upon the condition of the plants. If they have made a good summer growth and have well-matured fronds they will be all the better for being kept cool and moderately dry until the turn of days when we get brighter weather and more sunshine. With regard to watering, when the temperature has to be sustained by fire-heat, more water may be required than in the summer when there is shading and no artificial heat, and it may happen that they get dry beneath when they appear moist on the surface. It is, therefore, necessary to closely examine each pot, for, while no surplus water should be thrown about, the opposite extreme must be avoided. The great advantage in keeping Ferns inactive while there is so little daylight is that they start away with greater vigour when brighter weather comes, for the fronds forced into growth do not mature sufficiently to strengthen the plant for future growth. A sudden change of temperature is a thing to be avoided. If the night temperature has fallen low it may do no harm in itself, but if the fires are made up and the sun comes on the house at the same time moisture will settle on the fronds. To avoid this, a little top air should be given early, or as soon as the temperature begins to rise, for unless the cold moisture is gradually dried off it will cause discoloration of the fronds. I frequently hear of instances where the fronds of Adiantums and other tender Ferns turn black, and it may generally be traced to a sudden change of temperature. A Fern may remain out in the cold and will not suffer; but take it back suddenly into heat and in a short time the fronds will turn black.

A. HEMSLEY.

EDITORS' TABLE.

THE PERNETTYAS.

Mr. G. F. Wilson sends an important collection of branches of berried Pernettyas in ten or a dozen quite distinct shades of colouring from white

through tenderest pink, white and rosy pink, the colours then reaching a soft scarlet and ending with a dark blood-red, reminding one of the seeds of the Pomegranate. The berries also vary in size from that of young Peas to the size of the largest Cranberry, and they show another kind of variety in the way they are set upon the spikes, some densely, some more openly. Further variety is shown by those that have the smaller berries standing stiffly, while in those with the large berries the weight of the fruit causes the spray to hang over in a graceful pendulous way. The fine

two and three year old wood."—W. P. ATKINSON, *Royal Nurseries, Handsworth, Sheffield.*

[There is no doubt that this Holly is all that Mr. Atkinson claims for it. The leaves are large and deep green, and the shoots clustered with bold, rich red berries. It is a noble kind for the woodland, garden, or park.—EBS.]

COLLETIA CRUCIATA (BURTONIENSIS).

Mr. Beckett, the excellent gardener to Lord Aldenham, Aldenham House, Elstree, Herts, sends flowering shoots of this interesting plant. Mr. Beckett writes: "It has bloomed here for the last two seasons, a rather unusual occurrence in this part of the country I believe."

TALLEST BEECH IN ENGLAND.

THE tallest and best single Beech in England is represented in the accompanying illustration. It stands in Lord Brownlow's park at Uxbridge, which overlooks the Beech county, Buckinghamshire, and Lord Rothschild's park at Tring, but is itself on the opposite chalk range, on the borders of Hertfordshire. It is known as the Queen Beech, and is calculated to be 150 feet high. It is remarkable, not only for its height but for its perfect shape. The stem rises 100 feet without a single branch, and in the form of a perfect cylinder, growing very gradually less towards the top. Other Beeches close by reach an equal height, but have not such perfect and symmetrical trunks. One of the finest "all round" Beech trees in Scotland is at Newbattle Abbey, in Midlothian. It is 95 feet high, and 37½ feet in girth 1 foot from the ground. The branches spread over a circuit of 350 feet.

BOOKS.

The Studio (DECEMBER).—This beautiful monthly art journal is for December full of interesting articles and illustrations. There are six supplemental plates, and amongst miscellaneous articles is one upon "Open-air Museums for London," by George Brochner.

Winter Number of the Studio.—This is the most beautiful volume that has been issued from the office of the *Studio*. It consists of modern pen drawings, European and American, and the list of artists whose work is reproduced contains the names of R. Anning Bell, Walter Crane, E. T. Reed, F. Carruthers Gould, John Hassall, Phil May, Mortimer Menpes, Alfred Parsons, Bernard Partridge, and Byam Shaw. No less than fifty-six English artists are represented and eight American. This volume would make a delightful gift-book. It is issued at 5s. net.



THE QUEEN BEECH.

(Supposed to be the tallest Beech in the British Isles, height 150 feet.)

collection sent shows that nothing can be more worthy of cultivation for garden beauty in winter than these varieties of a good hardy shrub. The texture of the berries also shows a pleasing diversity. It is in some cases like marble, and in others like delicately stained ivory.

A BEAUTIFUL HOLLY.

"I am sending you Holly Marnocki, which I believe is the finest berry-bearing Holly there is, and here every year we have it making racemes of berries 2 feet and over long, berrying back into the

OBITUARY.

MR. WILLIAM DODDS.

THIS old Dahlia grower and exhibitor, who made a great reputation half a century ago as a raiser, died a short time since at Bristol at the advanced age of ninety-two. Coming south from Scotland—of which country he was a native—in 1847 he went into the garden of Colonel Baker, at Salisbury, and in a short time he became head gardener, occupying that position for the space of thirty years. Colonel Baker was a great enthusiast with the Dahlia, and at that time it was being rapidly improved, and Mr. Dodds threw himself into the work of raising new varieties with considerable ardour, and not a few of his productions were put into commerce by his old friend, the late John Keynes. As an exhibitor and cultivator he took a high position. Leaving Salisbury on the death of Colonel Baker, he went as head gardener at Ashton Court, Sir Greville Smythe's seat at Bristol, where he remained until he went into retirement. Until his infirmities prevented him, he came every year to London to act as judge at the exhibition of the National Dahlia Society at the Crystal Palace, meeting there old associates like Mr. H. Eckford, who was under Mr. Dodds at Colonel Baker's for a time. Mr. Dodds may be said to have outlived his contemporaries, and men who do that are speedily forgotten.

MR. PHILIP CROWLEY.

By the death, after several weeks of exceedingly painful illness, of this well-known member, the Royal Horticultural Society loses its long-time treasurer, and the fruit committee its greatly esteemed and endeared chairman. Mr. Crowley was singularly genial and affable in disposition, greatly devoted to horticulture, and especially to fruit culture. He will be greatly missed, and his death deeply regretted. He expired at his home, Waddon House, Croydon, on the 20th ult., and was buried in the beautiful rural churchyard of Shirley, of which parish his long esteemed colleague, the Rev. W. Wilks, secretary to the Royal Horticultural Society, is the vicar. The pretty churchyard seems to be the favourite burying place of the wealthy ones of Croydon, for it is nearly full of handsome burial monuments. Three members of the fruit committee represented that body, and Messrs. S. T. Wright and E. Reader represented the permanent staff. The attendance of relatives and friends was large, some twenty-five carriages being in the cortège. The grave was dressed with Moss, Ivy, and Polyanthus Narcissi. Many beautiful wreaths were sent, one being from the Gardeners' Company. The service was conducted by the vicar of Croydon, assisted by the Rev. W. Wilks.

[The above account, contributed by an esteemed correspondent, arrived too late for our last number owing to early publication, due to the Christmas holidays. We are grieved to hear of the loss of so ardent a horticulturist as Mr. Crowley. Men of this stamp—active, enthusiastic, and painstaking—are difficult to replace.—EDS.]

RECENT PLANT PORTRAITS.

THE *Botanical Magazine* for December contains portraits of *Dendrobium spectabile*, a native of New Guinea and the Solomon Islands, also known as *D. tigrinum* and *Latouria spectabilis*, from its having been originally discovered by a French botanist, Leschenault de la Tour. The specimen here figured was by Mr. Bennett-Poë in January of this year.

Adesmia boronioides, a native of south-eastern Patagonia, a small yellow-flowered leguminose shrub with brown markings round the centre of the flower. It is hardy at Kew, but has not yet bloomed there. The specimen figured was sent by Mr. Bulley, of Ness, in Cheshire, who raised it from Patagonian seed.

Dasytiron quadrangulatum, a native of Mexico, also known as *Agave striata* var. *recurva*. This is

a plant of no beauty as to its minute whitish flowers. It has fine grass-like foliage.

Matthiola coronopifolia, also known as *M. tristis* forma, *M. tristis* var. *bicornis*, *Leucocum montanum*, *L. minus purpureum*, and *Hesperis sicala coronopifolia*. A small branching perennial herb with rosy purple flowers somewhat larger and more ornamental than those of our common night-scented Stock, and with foliage resembling that of a *Verbena*.

Passiflora capsularis, a native of Brazil, also known as *P. rubra*, *P. pubescens*, *P. bilobata*, *P. lunata*, *P. piligera*, and *P. foliis bilobis*; an extremely pretty pale rose-coloured Passion Flower requiring the temperature of a stove; it has curious foliage, closely resembling the extended wings of a butterfly.

The *Revue de l'Horticulture Belge* for December contains, on a double plate, portraits of two new *Chrysanthemums*, one incurved of a curious dark purple shade of colour named *Souvenir de Suzanne*, and the other a fine pale yellow Japanese named *Prince Hussein Kamil*.

The *Revue Horticole* for November 16 contains a portrait of a pretty but rather insignificant Orchid, *Vanda cœrulescens* *Regneri*, with bunches of small pale blue flowers with a lip of a deeper shade. The number for December 1 contains a portrait of a large deep brown-coloured Pear named *Lieutenant Poidevin*.

The eleventh and twelfth parts of the fifteenth volume of *Lindenia*, concluding the volumes of this fine work, contain portraits of the following eight Orchids:—

Lælia grandis var. *tenebrosa* sub. var. *Lindeni*, a large flowered and very handsome variety.

Miltonia cuneata, a distinct and handsome variety with large flowers having deep brown sepals tipped with yellow and a pure white lip.

Cypripedium borchgraveanum, a fine large flowered but somewhat dull coloured variety.

Cattleya gaskelliana var. *Reine des Belges*, a most beautiful large pure white flower with a pale yellow throat and a bunch of carmine lines on centre of lip.

Cymbidium Parishii, a fine large pure white flower with yellow and brown markings about its centre.

Sobralia xantholeuca var. *alba*, a very handsome large flower of the purest white with a faint yellow centre.

Lælia grandis var. *pelargoniflora*, a fine large handsome variety.

Cattleya gaskelliana var. *amabilis*, a fine large pure white flower with pale yellow throat and a few carmine stripes on the centre of lip.

W. E. GUMBLETON.

A NOVEMBER NEAR NICE.

WHAT a pity it is that no November show of *Chrysanthemums* is ever enriched by the sight of some November flowers as they grow on the Riviera, and what a grace huge sprays of *Dahlia imperialis* hung with hundreds of its drooping milky bells would give! How noble those great branching panicles of scarlet flowers are that weigh down the shoots of the Tree *Salvia frutescens*, and how the spikes of *Hibiscus Manihot*, with its black-eyed sulphur blooms, spire out, recalling with added grace the *Hollyhock*, so dear to artists who reproduce the fleeting glories of a garden! In these days of cheap glass and economic heating, is it really impossible to reproduce these glories under a northern sky? What a delight it would be to many to enjoy at home such a sight if only it were once realised, and I cannot but think that the same energy devoted to the *Chrysanthemums*, if carefully directed in another channel, might give a new pleasure to those who are satiated with "Mums."

At first it seems as if it were merely a matter of cost to reproduce a southern garden under northern skies. Such, however, is not quite the case, for owing, perhaps, to too great shelter and stillness of air under glass, to say nothing of winter glooms and dismal fogs, there are a good many plants that grow too much and flower not at all or too little to give any idea of their beauty. To all folk who love

luxuriant climbers and noble flowering shrubs I would say, "Don't coddle them too much, give far more air than is usually given, let them have a wholesome check at times, either by drought, open air treatment in summer, or by confining their roots in tubs or boxes; they can then be lifted or moved about on occasion, so as to keep the roots more under control and more accessible to air in winter damp." I cannot think gardening in England has said its final word, and yet when out on the Riviera in November one is constantly saying, "Why, oh! why, does one never see these glorious things in any home garden?"

It may be, of course, that the absence of actinic power in the sun's rays is a stile "the lame dog cannot get over," but I think that those who know best the difficulties of gardeners, both at home and abroad, can find means either by artful hybridisation or cultivation to overcome them, as many other difficulties have been dissipated in the last generation. Climbers, perhaps, are the most impossible of all plants, both in their beauty and their requirements; some, for instance, take years to settle down into really free-flowering habits. The other day, visiting a neighbour's villa garden, I saw a Rose—crimson curtain of flower hanging from top-most eaves to the very ground—and when I got near it was nothing new, but, on the contrary, the old and lovely *Bignonia Cherere*, called here *B. buccinatoria*, from its trumpet-shaped blooms; but never before, in many years acquaintance, have I seen such a perfect sheet of flower. On the other hand, a seedling *Tasconia ignea*, not 6 inches high last May, now covers half a house with its scarlet stars, and *Mina lobata*, a mere climbing annual, is now one blaze of flowering sprays, shading from crimson to cream, and yet is never seen growing as a cool greenhouse creeper, which is its most suitable place in England. *Ipomœa ficifolia* is so glorified an edition of *Convolvulus major* that it deserves a tub or pot in which to be plunged out in summer, and then sheltered in winter, when it will flower till January comes. It needs plenty of room to grow, and neither much pot room nor good feeding for its roots. *Bougainvillea glabra* and *sanderiana* are both admirable climbers in England as here, but I doubt if it is known to most folk that it enjoys being placed out of doors on a south wall in summer, and rested in a vinery, needing only a rather dry, cool rest after Christmas and a severe pruning before it starts to grow in the spring. *B. sanderiana* becomes such a deep, heavy shade of lilac on these coasts that I cannot say it is beautiful unless grown quite in the shade, and therefore it must flower more freely in England than those that need the fullest exposure to sun even here.

Water Lilies are grown everywhere in tubs now-a-days, so why may we not utilise the same idea in a slightly different direction for our climbers, which in this way would be cleansed and hardened by summer rains and summer suns before they require the warmth and shelter of glass to protect their autumn flowers? The autumn and winter-flowering form of *Iris germanica*, which I first saw in a Bordighera garden, is also a plant worthy of a tub for the winter garden under glass, and in the good company of the bright golden *Linum trigynum* would cheer anyone who seeks for bright colours and flowery growths. For edging permanent borders under glass there cannot be a more enduring and beautiful flower than the major or speciosa form of *Iris stylosa*, which can never show its full beauty without protection, and yet because it exists and flowers under protest out of doors is mis-called a hardy flower. We are not always kind to our pets, and we need a little knowledge only too frequently to enjoy their full beauty. Happy are those who will or can take the trouble to gain it, assuredly they are speedily rewarded.

Brançolar, Nice.

E. H. WOODALL.

Sir Joseph Hooker.—We learn with pleasure that Sir J. Dalton Hooker has just been elected a member of *L'Institut de France* (*Académie des Sciences*). This is the highest French scientific distinction to which a foreigner can attain. The eminent botanist fills the place of the celebrated Bunsen.

A NOTE ON BAMBOOS.

THE hardy Bamboos have become quite established in English gardens. Over fifty kinds are in cultivation, but many are so much alike that it is necessary to think only of comparatively few species and varieties. No hardy evergreen is so graceful and beautiful as the Bamboo, and it is of freshest green in mid-winter when all else is for the most part brown and comfortless. Deep rich soil, shelter from north and east winds, plenty of water and manure are essential to success. The time to plant is May, and always give each kind sufficient space to develop. The following twelve species comprise the finest of the family, and also the hardiest, a point of much importance:—*Arundinaria nitida*, A. Simoni (see illustration), A. japonica (better known as *Bambusa metake*), A. Fortunei, A. auricoma (the last two are dwarf in growth and have variegated leafage), *Phyllostachys boryana*, P. Henonis, B. viridi-glaucescens (one of the most popular of all), P. nigra, P. Kumasaca, and P. mitis, also the broad deep green-leaved *Bambusa palmata*:

CHRYSANTHEMUMS.

CALVAT'S SEEDLINGS.

WHETHER one goes it is impossible not to be struck with the very large number of Chrysanthemums that have been raised by the eminent Frenchman, M. Ernest Calvat. In the parks, at the trade displays, on the show-boards of our exhibitions they are to be found without exception, and although some persons thought last year that there was evidence of a decline in the quality, yet there is no doubt that those he sent out last spring are an improvement on those of 1899, and certainly his novelties for next season contain several grand additions.

They are so well known as a rule, or else so

easily found in the trade catalogues, that lengthy verbal description may be dispensed with. During the past season I saw at various places the following novelties of the past year or two in unusually attractive form, viz., Le Fakir, Salomé, Aliette, Marie Charmet, M. O. de Menlenaire, Coppélia, Mme. Ph. Roger, Marquis Visconti-Venosta, M. Dhaugest, Mme. C. Kléber, W. Wells, Mme. C. Terrier, Zéphoris, and several others.

Those who are desirous of keeping up to date must not fail to obtain his grandest novelty for 1901, called Calvat's Sun, a truly magnificent golden yellow Japanese of great size. Others not yet in commerce worth noting are Chais, M. Waldeck Rousseau, Brumaire, Uranie, Etoile du Nord, Paolo Radaelli, Le Jungfrau, Regina Roi Soleil, and Croix du Sud.

It must, however, not be forgotten that M. Calvat has to-day far more serious competitors in the business than when he first became known here in England ten years ago, or a little less. English raisers of recent date, and colonial growers, too, have entered the lists with great credit to themselves, and have accomplished work that will render M. Calvat's task of keeping in the front a much more difficult one than hitherto. C. H. P.

BRITISH POISONOUS PLANTS.

BY THE REV. PROFESSOR GEORGE HENSLOW, M.A., F.L.S.

(Continued from page 471.)

SORREL (*Rumex Acetosa*), which contains binoxalate of potash, commonly known as salts of lemon, is a decidedly injurious plant if eaten in any quantity. Thus children have suffered from consuming too many leaves.

Thymelacæ.—The Spurge Laurel (*Daphne Laureola*) and the Mezereon (*D. Mezereum*) are both poisonous in all parts. The fruits have caused the majority of accidents with children. The poison acts on the nerves like Monkshood.

Euphorbiacæ.—The Spurges (*Euphorbia*) are known by the milky acrid juice, supposed to be destructive to warts. The *latex* is acrid

and poisonous, and the seeds contain a very purgative oil. A cultivated sp., *E. Lathyrus* has a three-lobed fruit resembling that of the Nasturtium (*Tropæolum majus*), which has sometimes been used for pickling, but although the acid may neutralise the poison, it is certainly inadvisable to use them.

Mercury, of which we have two species (*Mercurialis annua* and *M. perennis*), has a watery and poisonous juice. Though beasts refuse it, they have sometimes been poisoned by these plants being mixed with herbage and fodder. Drying destroys the poison.

The Box (*Buxus sempervirens*) has a disagreeable odour and taste. It has poisoned both man and animals. It has been fraudulently used instead of Hops in beer and proved very injurious.

Oak (*Quercus Robur*).—In spring time cattle, which have been fed for a long time on dry food, are allowed on the continent to browse on the young green shoots of Oaks. After some days the younger animals have suffered greatly and often died.

Coniferae.—Of the three British coniferous trees, the Yew, the Juniper, and the Scotch Fir, the Yew is the only one which calls for attention. The young foliage is not so deleterious as the older, as stated, for peasants feed their cattle on the cuttings of hedges, but the older shoots and leaves have often proved poisonous to cattle, and though the scarlet cup surrounding the seed is perfectly innocuous, the latter has often poisoned children who have eaten both together.

Monocotyledons. **Amaryllidacæ.**—The genus *Narcissus* has at least two very poisonous species, especially as to their bulbs, the Daffodil (*N. Pseudo-Narcissus*) and the Poet's Narcissus (*N. Poeticus*). Their stems and leaves are refused by cattle. The bulbs are very emetic, and the flowers dangerous if the petals be chewed.

The Snowdrop (*Galanthus nivalis*), and the Snowflake (*Leucojum vernum*) have also bulbs which are violently emetic if eaten.

Dioscoreacæ.—The Black Bryony (*Tamus communis*) is also a dangerous plant, as the fruit is poisonous and emetic. The rhizome was a cathartic drug of quacks, but it is a dangerous one.

Liliacæ.—*Colchicum* (*C. autumnale*) is a very poisonous plant. It only grows sparingly in our fields, but in extraordinary abundance in some of the grassy meadows of Switzerland. Even the dried leaves in hay are injurious if eaten in any quantity. The poisonous bulb has proved fatal when eaten in mistake for an Onion.

Lily of the Valley (*Convallaria majalis*) is poisonous in all its parts, the flowers being most dangerous, as also are the red berries.

Paris, another Liliaceous plant (*P. quadrifolia*) is equally poisonous throughout. The black berries have poisoned children.

Bluebell (*Scilla nutans*), like other species, including the South European Squill (*S. maritima*), are dangerous, the bulbs being very acrid.

Aroideæ.—Lords and Ladies or the Cuckoopint (*Arum maculatum*) is poisonous in every part.



ARUNDINARIA SIMONI,

The rhizome contains much starch, and has been used for its extraction under the name of Portland Sago. The scarlet berries have proved fatal to children in ten hours. The cells abound with crystals of oxalate of lime, which are said to almost excoriate the tongue, but the berries appear to be poisonous as well.

Gramineæ.—Darnel (*Lolium temulentum*) has been reputed as poisonous since the time of the ancients, for Virgil speaks of the "*infelix Lolium*." It is only the grain which is deleterious, the grass itself being used for fodder in Malta and other places. It is, therefore, very exceptional that animals have been poisoned. Although the grain ground up with wheat and baked has proved deleterious, experiments with the grain so prepared has resulted in no harm whatever on other occasions. As the grain has been used in former days medicinally, and produces similar effects to Ergot, it seems just possible that the poisonous principle may prove to be due to the presence of this fungus, for as yet Darnel and its variety *L. linicola*, occurring in fields of Flax are the only poisonous grasses known.

THE MILD WINTER.

PLANTS in flower at Bryn Oerog, near Llangollen, on Christmas Day :

Roses	Primroses, single red
Christmas Roses	Arabis
Double Ivy-leaved Geranium	Linum arboreum
Stocks, white and purple	Vinca minor, blue and white
Laurustinus	Erigeron philadelphicus
Antirrhinum	Anemones, double and single
Pentstemon	Gypsophila muralis
Berberis, two sorts	Sternbergia lutea
Daisies, red, white, and pink	Erica carnea
Nicotiana affinis	Lithospermum prostratum
Jasminum nudiflorum	Hepatica, double blue
Gaillardia	Double Furze
Violas	Fragaria indica
Violets	Auriculas
Hollyhocks	Carnation
Chrysanthemums	Canterbury Bell
Yellow Alyssum	Aubrietia
Rue	Marigold
Primroses, blue	Alpine Strawberry
" double white	
" double red	

Plants in flower in the open at Lofthouse, Cockington, Torquay, on Christmas Day :

Roses, including Niphotos	Pine-apple Salvia
Cydonia japonica, white and red	Cosmos, white, mauve, and yellow
Choisya ternata	Pansies
Spiraea Antony Waterer	Auriculas
Fuchsias	Doronicums
Chrysanthemums in great variety	Scabious
Erigeron mucronatus	Pentstemon
Veronicas	Blue Violets in variety
Pittosporum	White Violets in variety
Wallflowers	Iris stylosa, blue and white
Aubrietia	Stocks
Iberis	Virginian Stocks
" sempervivens	Blue Canterbury Bell
Daisies, pink and red	White E-callonia
Paris Daisies, yellow and white	Marguerite Carnations
Blue Lobelia	Gazanias
Lithospermum prostratum	Marigolds
Double Tropaeolum	Agatheae celestis
Hypericum moserianum	Mignonette
Jasminum revolutum	Antirrhinum
" nudiflorum	Saponaria
Blue Vinca	Coronilla
Christmas Roses	Laurustinus
Abutilon, yellow, red, and white	Schizostylis coccinea
Salvia Pitcheri	Fragaria indica
	Mesembryanthemums
	Andromeda

My mother adds : "We had a dish of Peas a day or two ago, and still have Peas in blossom and in pod." EMILY T. L. EDWARDS.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.

PRESENT: Dr. M. T. Masters (in the chair), with Rev. W. Wilks, Mr. Michael, Mr. Veitch, and the Rev. G. Henslow, hon. sec.

Quercus sessiliflora.—Mr. Wilks showed leaves with petioles and sessile acorns of this variety, and remarked upon its rarity in the woods near Croydon. He had only met with two, but very handsome trees, about 100 yards apart, and

probably 150 years old. He observed that this form of the Oak keeps its leaves longer than *Q. pedunculata*, which is the commoner of the two varieties. The leaves are inclined to be tomentose below, giving a silvery appearance. Sir J. D. Hooker, in the "Student's Flora," records this character as belonging to *Q. intermedia*, a subspecies with short petioles and peduncles. Dr. Masters remarked upon the scarcity of the tree in Kent, and that it formerly, and perhaps still, grows at Brockley.

Machura aurantiaca, fruit.—An unripe fruit of this American tree was sent by Mr. James Vert, of The Gardens, Audley End. It is known as the Osage Orange, and is a native of the Southern United States. It is allied to the Mulberry, and, like that, has a compound globular fruit. The tree, being spinescent, is often kept dwarf, and employed as a hedge plant. The golden fruit, about the size of an Orange, is not edible.

Fruit from old Melon seed.—Mr. T. Sharp, Westbury, Wilts, describes his experience in raising Melons from old seed as giving better results than from young seed. His observations are as follows, which entirely confirm that of previous observers : "In a small Melon house I noticed two plants which were very vigorous and survived the first crop. They produced a good second crop of female flowers, but somewhat smaller, as were the male flowers, than usual. In the same house was a batch of young plants, with good male blossoms. I fertilised the females of the older plant with the pollen from the younger. The crop of fruit was nearly double that of the first. The fruits were large and of excellent quality throughout. A year or two afterwards, having to supply ripe Melons in May and onwards, and having noticed that plants from old seed produced a less succulent growth than did those from young seed, for four years I raised my plants from old seed, always growing a few plants from new seed. I then fertilised the female flowers of the older plants with the pollen of the younger, which plants were invariably the more robust. The resulting fruits were more reliable in good quality, and though the female flowers had been small, the fruits were large, weighing from 3lb. to 7lb." Mr. Henslow has given very similar experiences on the Continent in his "Origin of Floral Structures," page 247; M. F. Cazzola, in addition, found that Melon plants raised from fresh seeds bore a larger proportion of male than female flowers; while older seed bore more female flowers than male.

Ornithogalum lacteum.—Mr. Veitch brought a beautiful spike of this plant in full blossom. It was especially interesting as having been cut in South Africa from Table Mountain on November 27. It was then put into the refrigerating chamber of a ship on the 28th, and thus has lasted exactly three weeks in a perfectly fresh state, illustrating the possibilities of the transport of cut blossoms from the colonies.

Seakale, defective.—Mrs. A. Williams, of Coed-y-Marn, Welshpool, sent samples of Seakale; they were thin, and carried numerous buds on the crowns. This was the result of defective soil, described as a stiff one and damp, imperfect nourishment, and neglect in removing the superfluous buds, instead of leaving only one in which the energy should be concentrated.

Elm trees at Bath dying.—Mr. Milburn, superintendent of the Botanical Gardens, Victoria Park, Bath, records the dying of some five Elms : "The trees were planted between fifty and sixty years ago. They form part of a line which still remain apparently healthy. The trees in question are situated on the base of a sloping bank running east and west. On the south side is a stone wall from 6 feet to 8 feet in the foundations. The subsoil is blue clay; consequently, the trees have root room only one side. Moreover, the last two or three seasons have been very dry. In addition to this a destructor has been erected 200 yards off; also close at hand are the gasworks. Matter is conveyed in the air from both these works, as it is deposited in the form of a black oily scum on the lake situated a little north of the Elms." As Professor Oliver showed in his paper on "The Effects of Urban Fog upon Cultivated Plants" (Journal of the Royal Horticultural Society, xvi., page 1), the extremely poisonous nature of vapourised carbonaceous products there would seem to be ample cause of injurious influence upon the trees, apart from the want of freedom in root production.

Double Cyclamen.—Dr. Masters reported as follows upon the specimen sent to the last meeting from Messrs. Ker, of Liverpool : "In these flowers there were five sepals, five distinct petals, no stamens, but several rows of additional petals. The ovary was normal."

PLANTS FROM CAMBRIDGE BOTANIC GARDENS.

Mr. I. Lynch forwarded the following interesting species, for which a unanimous vote of thanks was passed, and to the three first-named were awarded botanical certificates : *Kleinia pendula*, with fleshy stems and scarlet heads of flowers, from Somaliland; *Kalanchoe marmorata*, another fleshy plant; and *Nematanthus longipes* (Gesneriaceæ). A few observations are here added. The genus *Kleinia* is a Groundsel or Senecio, with fleshy stems; *K. nerifolia*, the "Barode," being a native of the Canary Islands; most of the species are South African. *K. pendula* has a rod-like fleshy stem, the thickness of a pencil, from which a long pendulous peduncle arises at the apex. The leaves are reduced to minute prickles. *Kalanchoe* belongs to the Crassulaceæ, is from tropical Africa, but has species in Asia and Brazil. It has tubular, greenish white flowers, nearly 6 inches in length, and fleshy obovate leaves.

Phylla ericoides (Rhamnaceæ), called Bruyère du Cop, is a Heath-like plant, with terminal clusters of minute white flowers.

Lindenbergia grandiflora (Scrophulariaceæ), figured in the October number of the *Botanical Magazine*, is a genus with yellow flowers, and nearly allied to *Minulus*. There are eight species in East Africa, Arabia, East Indies, and the Malay Archipelago.

Nematanthus longipes has sub-fleshy lanceolate leaves, and long scarlet tubular flowers protruding from one side of the calyx. It belongs to Gesneriaceæ. There are only three or four species, all natives of Brazil.

Senecio vulgaris x *S. squalidus*, a remarkable natural hybrid between these two British plants, the former being the Groundsel and the latter naturalised on old walls at Oxford and elsewhere. The flowers are small ($\frac{1}{4}$ inch from tips of ray florets) with the foliage of Groundsel. It comes perfectly true from seed, and has commenced being a weed in the Cambridge Botanical Gardens. It is said to grow wild with its parents near Cork.

Cardamine chenodouifolia is remarkable for bearing perfect seed, both above and below ground. Mr. Lynch observes that he has two sets of plants—one always raised from seeds out of the subterranean pods, and another set always raised from the other seeds, in order to see whether in course of time any modification of habit may arise in consequence of growing always from seed produced in the same way. The white flowers are excessively minute, and are fertilised in bud, the anthers being closely adpressed to the globular stigma, the conditions usually prevailing with normally self-fertilising Crucifers. The subterranean pods are white and spindle-shaped, and a quarter of an inch in length. They contain one or two seeds, being separated by a delicate white membranous false dissepiment. They are attached to slender pedicels, 1 inch long, which turn abruptly downwards from their point of insertion in the stem. These are doubtless the result of cleistogamous buds.

Altiampora nutans.—The flower consists of five or four sepals, no petals, many stamens, the pistil having a long style and truncated apex, not spreading into an umbrella-like expansion as in the allied genus *Sarracenia*. There is but one species, a native of Venezuela.

Begonia venosa.—This is remarkable on account of its fleshy leaves and large scarious stipules, both features being characteristic of hot and dry climates.

Ceropegia dichotoma, with tubular flowers, the tips only of the corolla remaining coherent. *C. stapeliiformis* and *C. elegans* and *C. Woodii* all remarkable fleshy climbers, the last bearing tubers and pendulous. It has been figured from the Cambridge plant in the *Botanical Magazine* of March, 1900.

Boanipania geminiflora (Polemoniaceæ) is remarkable for the corolla being lipped, two upper petals cohering above the tube and provided with a white lined base as a "guide," the three other petals project forward, upon which the subdeclinate stamens rest. The long style with three spreading stigmas projects a quarter of an inch beyond the anthers. It is a monotypic genus, and a native of Mexico.

Nepenthes Veillardii, a species of Pitcher Plant, with small pitchers 3 inches long, and remarkable for the white border round the incurved red margin. The lid is red, and the under side of the leaves russet but smooth.

NATIONAL DAHLIA SOCIETY.

A MEETING of the committee of this society for the purpose of arranging for the forthcoming annual meeting was held at the Horticultural Club, Hotel Windsor, on December 18, the president (Mr. E. Mawley) in the chair. Dahlia growers come long distances to attend the meetings of the society, and this fact may be taken as a proof that the interest in the Dahlia as an exhibition flower is by no means on the decline. The usual preliminaries having been got through, a draft report was submitted by the secretary, Mr. J. F. Hudson, M.A., the leading points in which were the congratulations of the committee upon the extent of the last exhibition at the Crystal Palace, the largest yet held by the society, the number of entries having shown a considerable increase upon those received in former years, though the season was not generally favourable to the production of good blooms. Owing to the prolonged drought and heat of the summer, the blooms of the show and fancy varieties did not display the usual high quality, but the Cactus types by their extent and finish more than compensated for the falling off in the older forms. Allusion was made to the changes which had been introduced into last year's schedule of prizes as having fully answered the expectations formed of them, that for sixty blooms of Cactus varieties shown on boards as in the case of the show and fancy sorts, with the addition of foliage, an excellent display resulted, the competition being very keen. Another class was for twelve vases of Cactus blooms shown with long stems in vases with appropriate foliage, and this was equally successful, bringing highly attractive exhibits. Owing to insufficient table space having been allotted, the exhibits were somewhat separated, a defect which will be remedied on the occasion of another exhibition. It is proposed to extend the vase classes if the funds of the society will admit of its being done. Allusion was also made to the increased sizes found in some of the new varieties of Cactus Dahlias, and a fear was expressed lest the tendency to sizes should result in coarseness. The class for six plants of Cactus Dahlias in pots brought but one exhibit, and that of plants barely in bloom; it was thought a later date would produce better results. Seedlings for certificates were produced in large numbers, but the arrangements for staging now in force were not of a nature to display them to the best advantage, and some improvement in this respect appears very necessary. A desire was expressed that a supplemental seedling show, at which the committee of the National Dahlia Society would award certificates, should be held in connection with one of the meetings of the Royal Horticultural Society at the end of September. Allusion was made to the fund being raised for the purpose of perpetuating the memory of the late president of the society, Mr. T. W. Girdlestone, M.A., the chairman reporting that nearly a sufficient sum had been obtained to enable the committee to carry the proposal into effect. A scheme for affiliating Dahlia societies had been drawn up, and the Boston society had already made application.

The financial statement furnished by the treasurer showed a small balance in favour of the society. This official enforced the necessity for obtaining subscribers, and also an increase in the number of special prize donors.

The list of patrons and patronesses were passed; Mr. Mawley was nominated for re-election as president; Mr. Hudson as secretary, and Mr. Wilkins as treasurer, with Mr. H. Turner as auditor. The list of the committee was

revised for nomination, and under the head of arrangements for the coming season provision was made for holding the annual exhibition on Friday, September 6, the committee favouring a one day rather than a two days' show; this, of course, subject to the concurrence of the directors of the Crystal Palace at Sydenham, and also for an exhibition of seedlings during September at the Drill Hall, Westminster, if arrangements can be made with the Royal Horticultural Society.

ANNUAL MEETING.

The annual meeting of the National Dahlia Society will be held, by kind permission of the Horticultural Club, at the Hotel Windsor, Victoria Street, S.W., on Tuesday next at 2 p.m. Agenda: Report of committee for 1900; financial statement; schedule for 1901, and other business. Notice has been given that the following change in rule xi. will be proposed—for "compete" read "exhibit."

NATIONAL CARNATION AND PICOTEE SOCIETY.

UNDER the presidency of Mr. Martin R. Smith, who was supported by a number of leading growers, the annual meeting of this flourishing organisation was held at the Horticultural Club on December 22. It is not usual to present a report, but the secretary furnishes one later on, which is published with the schedule of prizes. The financial statement showed that a balance of £229 10s. 10d. had been brought over from the previous year; annual subscriptions, &c., had realised £245 19s., in addition to a donation of £50 from the Crystal Palace Company. On the other side, the sum of £235 6s. 6d. had been paid as prizes; printing, stationery, &c., amounted to £64 3s. 1d.; and, with some other payments, there remained a balance of £177 15s. 1d. to be carried over for another year.

On the meeting proceeding to elect officers and committee for the ensuing year, Mr. Martin R. Smith was re-elected president, Mr. T. E. Henwood treasurer and secretary, and the committee reappointed. The schedule for the past year was adopted for 1901. Having regard to its comprehensive character, it was not wise and expedient to make any additions to it. On the motion of Mr. F. A. Wellesley, it was resolved that the date of the annual exhibition should be fixed for July 19, subject to that date suiting the Crystal Palace authorities, and it was further resolved that the date, if decided upon, should on no account be altered. A motion, also by Mr. Wellesley, to appoint judges for the premier blooms in the various sections, was commended to notice on the ground that hitherto the judging of these had been left to the last and been dealt with in a hurried and imperfect manner. It was resolved that special judges should be appointed to make the awards to the premier blooms, the work to be done at the time the other awards are made. A motion was made by Mr. S. A. West to hold two exhibitions a year instead of one—one for the earlier blooming white ground Carnations and Picotees, the other for the later blooming fancies and yellow grounds. In opposition to this proposal it was contended considerable expense would be incurred and inconvenience caused to exhibitors. Eventually it was agreed that as July 19 would be a date likely to ensure a good display of all sections of bloom, that only one exhibition be held in 1901. The committee appointed to revise the yellow grounds reported that they recommended that such varieties as *Eunomia*, *May Queen*, *Mrs. Willie Spencer*, *Primrose Day*, and *Stanley Wrightson* be deleted from the list and added to the fancies, and that the following of Mr. M. R. Smith's new varieties be added to the yellow grounds: *Lady St. Oswald*, *Lanzun*, *Daniel Defoe*, *Heliodorus*, *Henry Falkland*, *Edna May*, *Caracea*, *Alcinous*, *Edeth*, *Galatea*, and *Anchor*. The report was adopted. A vote of thanks passed to the president brought the proceedings to a close.

NATIONAL AURICULA SOCIETY.

THE annual general meeting of this society was held at the Horticultural Club on December 22, Mr. James Douglas in the chair, there being a good attendance. The secretary made a statement in relation to the show of the past year to the effect that owing to the variable weather which prevailed during the time the plants were expanding their pips they opened unkindly, while at the time of the show the weather was very hot for the season of the year, and the immature pips speedily collapsed under it. The financial statement was satisfactory, a substantial balance being carried forward for next year. Sir John D. T. Llewellyn, Bart., was re-elected president, as also were the vice-presidents. Mr. James Douglas was appointed chairman of the committee in the place of the Rev. H. H. Dombain resigned, and the names of Messrs. A. R. Brown and E. L. Gordes were added to the committee. Mr. T. E. Henwood was re-elected secretary and treasurer. The schedule of prizes was passed, and it was agreed the annual exhibition should be held at the usual time in April next. A vote of thanks was passed to the chairman for presiding.

BRISTOL GARDENERS' ASSOCIATION.

A PUBLIC entertainment took the place of the usual meeting at St. John's Parish Room, Redlands, on Friday, December 28. The chair was taken by Mr. G. Brook, in the absence through military duties of the president of the association, Colonel H. Cary-Batten. An interesting programme was efficiently rendered. Songs were sung by the Misses L. Paul and G. Bishop and Mr. H. S. Newbery—"Queen of the Earth" by Miss Paul and "Jessamy Town" by Miss Bishop gaining well-merited encores, which were kindly responded to. Mr. H. W. Conway skillfully played a violin solo, and Mr. J. Bishop a banjo solo, which also was encored. The duties of accompanist were ably carried out by Mr. A. J. Wakefield, who gave, in addition, a piano solo. The last part of the entertainment consisted of an exhibition of animated photographs. The subjects were of varied character, including "Ox Waggon trecking across the Veldt," "Ambulance Corps at work at Modder River," "Return of the C.I.V.'s to London," &c., all of which proved entertaining,

and were much appreciated. Prizes were offered by Colonel Cary-Batten for three plants in flower. After keen competition the awards were: First, Mr. Binfield; second, Mr. McCulloch; third, Mr. Ross.

Hardiness of Lapageria.—There is no doubt of the hardiness of *Lapageria*. I have really good flowers now out (December 29), but it must be grown on a north wall.—E., *Bitton Vicarage, Bristol*.

Mr. William Herbert Dunnett, a partner in the well-known seed house of Messrs. James Carter and Co., of High Holborn, London, died at his residence, Stourbridge, Dedham, Essex, on Saturday, in his 74th year. Mr. Dunnett had ceased to take any active share in the management of the London business for many years. He was a large landowner in the Vale of Dedham. He leaves a widow, one son, and two daughters.

Gardeners' Royal Benevolent Institution.—The sixty-second annual general meeting of the members and subscribers of the above institution will be held at Simpson's, 101, Strand, W.C., on Tuesday, January 22, at 3 p.m., for the purpose of receiving the report of the committee and the accounts of the institution—as audited—for the year 1900, electing officers for the year 1901, and for the purpose of placing seventeen pensioners on the funds.

United Horticultural Benefit and Provident Society.—A special meeting will take place at the Caledonian Hotel, Robert Street, Adelphi Terrace, Strand, W.C., on Monday, January 14, at 8 p.m., for the purpose of taking into consideration the recommendation of the committee, for increasing the secretary's salary, deciding the amount, and altering Rule 8 in accordance with the same.

A floral record.—I had upon my table on Christmas Day a large bowl of Tea Roses grown out of doors, and sent to me by my friend Mr. George Winch, of Holcombe, Chatham, a bunch of Primroses gathered by Miss Atkinson in a wood near Haslemere, and some beautiful blooms of *Iris stylosa* from my own garden.—S. REYNOLDS HOLE, *Dean of Rochester*.

Rosa wichuriana rubra.—This beautiful and surprisingly floriferous Rose, obtained by M.M. Barbier freres, Orleans, from seeds of *R. wichuriana* × *Crimson Rambler*, will be sent out by them this year. Several plants have been obtained from this cross, bearing flowers more or less red in colour; one only was double, and of a pale rose, this, however, did not appear to flower freely. Seeds gathered from *R. wichuriana rubra*, without artificial fertilisation, have reproduced the variety almost identically. Amongst seventy plants, not one reverted to the type of either parent, not even so far as the foliage is concerned; their flowers were all of various shades of red, not one having produced white blossoms. The time of flowering of these seedlings, including *R. wichuriana rubra*, is the same as that of *Crimson Rambler*—rather sooner than the *R. wichuriana* type. I described them about the middle of June, and their flowering season lasted until the end of the month. This beautiful novelty will be particularly useful for covering trellises, arbours, or other positions that lend themselves to the use of climbing Roses. But it is above all suited for clothing isolated rocks upon slopes. We have already obtained surprising results in this way with *Crimson Rambler*, and it is a practice that might be continued and varied indefinitely with advantage to our parks and gardens. We have already *Rosa rugosa* and hybrids; the new introduction of Messrs. Barbier; the obtainments of M. Manda, United States; the *R. rubiginosa* hybrids, named after Lord Penzance; all these have enriched our gardens and furnished them with valuable summer decorative plants. It only remains now to obtain the *Rambler* with yellow flowers—which has just been announced—and above all to make these plants perpetual flowering. We have already seen flowering shoots of *Crimson Rambler* in December, and the time would not appear to be distant when we shall have these splendid crimson bouquets almost all the year.—ED. ANDRE, in *La Revue Horticole*.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—The Editors intend to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening maybe, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITORS OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Names of plants. C.—*Myrsiphyllum asparagoides*.—E. M. Possibly the *Bignonia* referred to is *B. Cherece*, elsewhere alluded to. The clear atmosphere of California might account for the blossoms being there of a somewhat purer tint.

KITCHEN GARDEN.

Early Peas (F. C. B.).—It is not difficult to understand your desire to be gardening, because the open weather does conduce to that feeling; but you will be wise to do as the cold-blooded practical gardener does, and that is, to remember that we have much the worst part of the winter, such as it may be, to come. We cannot be said to be free from frosts until the end of May, and we have seen late sharp frosts literally killing Early Peas when in full bloom as late as May 20. If you have a warm sunny border on which to get Peas earlier than can be the case out in the open ground, get it trenched 2 feet deep now, adding to it, especially low down, a good dressing of manure. That will cause the ground to be light and porous, and prevent it from becoming water-saturated. Then you may sow Chelsea Gem in rows 24 inches apart at the end of January, protecting the seed from mice, and later, when the plants come through, from birds, with the aid of nets or wire protectors. In such a position very Early Peas may well escape harm from late frosts.

Artichokes (J. J.).—You can leave the tubers of what is called the Jerusalem Artichoke—properly the tuberous-rooted Sunflower—in the ground all the winter with safety. Frost does not harm them so long as they are well buried in the soil; but if you may be wanting tubers at any time it is wise to cover a portion of the plot with Fern or litter in hard weather. The other Artichoke so-called is hardy also. That is the Chinese *Stachys tuberosa*; but in this case again it is wise to cover up some portion of the roots with litter also in midwinter. Both descriptions of root or tuber lie dormant until the end of March; they then begin to grow. Tubers of the Jerusalem variety if lifted to store for late use keep best in some dark place and in dry sand or ashes. Those of the *Stachys tuberosa* being quite white soon discolour if they are left exposed to the air but a short time, and it is best to get these dug up as they are wanted.

Award to Potatoes (C. J.).—It is very seldom that any variety of new Potato is esteemed to be so good and so distinct from others as to fit it to have the award of a first-class certificate from the Royal Horticultural Society, but several get awards of merit yearly. These awards, however, simply indicate that the varieties are of average excellence and no more. But one first-class certificate was granted to a Potato in the past year, and that was a very early and remarkably good White Kidney of the Ashleaf type that was quite delicious when cooked as early as July 10. Its name is Denbigh Castle. You had better send about twenty clean medium-sized tubers of the best of your seedlings to the superintendent, Royal Horticultural Gardens, Chiswick, near London, who will have them planted with any other seedlings or older varieties he may have sent in for the purpose. You must give the seedlings proper names. Take advantage of open weather and put seed in soon.

Sowing Peas (STATION).—Whilst no special rule governs Pea sowing in relation to quantity of seed, it is a common practice to sow early varieties rather thicker than later ones. The first earlies are usually less robust than the later ones, and less branching. Still farther, they are not expected to give a long succession of pods. If a couple or so of good gatherings be obtained from one sowing that is often regarded as satisfactory. Another reason for thicker sowing is that the ground is colder early, and germination is seldom so sure as it is later. We find that for first early sowing a pint of Peas will do from 70 feet to 80 feet run of drill very well, and for late Peas fully 100 feet, and with tall Peas even 120 feet. It is so common for Peas to be sown far too thickly, yet by far the best and most continuous crops come from quite thin sowings.

FRUIT GARDEN.

Planting Vines (SENEC).—Where Vines are planted inside a vinery the work may be done at any time during the winter; in all such cases it is best done early, as, without doubt, the roots in fairly warm soil become active so much sooner; but on outside borders we prefer to plant either in November or at the end of February. When outside planting is done in midwinter there is always the possibility that the soil may be too cold to lead to root action, and thus, whilst nothing has been gained by the then planting, the roots may, so far from becoming active, have really suffered. Certainly all newly planted Vines within or without should have a covering of some 3 inches of warm manure placed over the ground after the planting is complete. Do not purchase strong pot Vines. You should be able to obtain good planters in 6-inch pots that have plenty

of fibrous roots, and when turned out of the pots and spread open moderately have so many points from which root action will proceed. You will have to cut your young Vines quite hard back soon after they are planted to cause them to throw up a stout rod from each.

Cordon Plum trees (W. A.).—Where, as with you, quality of fruit is of less consequence than quantity, it will be wisest for you to plant cordon-trained cooking Plum trees, as these are, on the whole, the most prolific. We should advise for succession Rivers' Early Prolific, Czar, Victoria, Pond's Seedling, Monarch, and Archduke, as these give fine fruits. You had better get trees and plant at once. Do not use other than very thin or old hotbed manure, and that not too liberally as the tendency is to cause coarse roots and wood to be produced. For single cordons plant at 15 inches apart. Do not force the stems too near the wall at the base, as the near base of a wall is too often very dry, bricks being so absorbent. If you wish to have a few good dessert Plums, plant transparent Gage, Angelina Burdett, Jefferson, Braby's Gage, and Coe's Golden Drop. If you have a long wall it will be good policy to plant a few of these choicer Plums. Stone fruits like some old mortar refuse, wood ashes, and bone dust strewn over the soil as the planting proceeds. As a rule Plums do best on west aspects. You do not give the aspect of your wall.

TREES AND SHRUBS.

An early-flowering Rhododendron.—It may interest you to see the enclosed bloom of Rhododendron, picked on December 25, and I should be glad to know the name of it. Is it *R. arboreum*? The plant always flowers either in December or January; this year and once previously it opened its first bloom in November. I counted fifty-three trusses on it in full bloom a few days ago, besides a number of buds. As you see, the truss is not a large one, but the colour is effective, and the mild weather has allowed the flowers to come out undamaged.—A. MARSHALL.
[Cunningham's Early Red is the name of your Rhododendron, a hybrid with *R. arboreum* as one of the parents.—EDS.]

Ivy carpets and margins (J. C.).—The objection you raise to the carpeting of bare ground beneath trees with Ivy, that the undergrowth would become choked with leaves, is not at all worthy of consideration. What leaves fall, if they rest on the Ivy leaves, can be easily induced to fall in out of sight if a long birch broom be occasionally run over the top, then the decaying tree leaves gradually decompose and become excellent plant food for the Ivy. If there does seem to be an excess of leaves, and so much depends on what the overhanging trees are, some portions can be removed once or so, then no further trouble is given. Break up the bare soil beneath the trees a few inches deep; then spread over that some 3 inches of fresh soil and plant the Ivy. The work may be done any time during the winter up to the end of March. Good common or Irish Ivy does well to make carpets in this way, as also broad edgings to shrubberies.

FLOWER GARDEN.

Carnations in hanging baskets (E. M.).—We are not aware that anyone has tried to grow Carnations in hanging baskets, their upright habit of growth and brittle nature being all against them for such a purpose. It is also very doubtful if they would grow in a satisfactory manner under such conditions, but, as above stated, we cannot learn that they have ever been tried in this way. We have, however, seen them prettily used in ornamental vases, the shoots hanging over the edge.

Double Primroses (TRANSON).—The difficulty you experience in getting double Primroses to thrive well is too common in the inland districts, where the summer air becomes heated and dry. It is then that thrips and spider are bred, and these tiny insects prey upon the leaves and make their juices dry, withering them up, and leaving the crowns bare. We have found after long experience that plants so defoliated never again produce strong crowns to flower well. It is needless to have the foliage well preserved during the summer. That is easy enough in humid districts, especially in hilly localities or near the sea. Wherever grown also the soil should be deep and retentive, as the roots will then go deep in search of moisture. Wherever grown in dry districts the plants should be liberally watered over head at night or early in the morning, and have some fine or old pot soil placed about them as a mulch. It is not often that good clumps are seen in gardens.

INDOOR GARDEN.

Planting Ixias (E. M.).—It is too late now to plant Ixias for outdoor flowering unless the bulbs have been potted and placed in a cold frame, in which case their roots will now be active. Then they may be planted in a warm, sheltered border, but in so doing the roots must not be disturbed. Ixias as a rule go to rest early, and good, well-ripened bulbs may be obtained by September. They should be planted by the middle of October, as at that period the soil still retains some of the latent summer heat, and is in good condition for such subjects. The border must be well drained and protected during severe frosts by a covering of litter or some other material; if something that will keep off the wet, so much the better. Ixia bulbs are small, and on the shelves of shops or warehouses they quickly lose a good deal of their vitality; hence, if obtained from dealers now, they would in all probability be too debilitated to flower in a satisfactory manner, even if planted at once.

Taking layers of Indian Rhododendrons (E. M.).—The taking of layers from Indian Rhododendrons will not injure the trees in the least, providing, of course, that there are branches near enough to the ground to be layered without disfiguring the specimen. The shoots layered must be cut with a tongue on the principle adopted in the case of the Carnation, and a small stone inserted to keep it open. Then the mutilated portion must be buried at least 4 inches below the soil, and held firmly in position by stout pegs. The part of the shoot that is above ground

should be tied to a stake to prevent it moving about in any way. Very sandy peat should be worked around the buried part, as it is particularly favourable to the production of roots. Even with all this it will be three years before your layers are sufficiently rooted to be removed, so that at best it is a slow process. For this reason they are more often increased by seeds, cuttings, or grafting, but these two latter operations require various appliances and practical knowledge.



TULIPA ACUMINATA.

(SYN. CORNUTA.)

Tulipa acuminata (L.).—This, as the illustration shows, is a very quaint kind, with long wiry segments. It is more curious than beautiful, but we plant a group of it because of its curious shape.

TRADE NOTE.

A SUPPORT FOR FLOWERS IN WATER.

We have received from Mr. Wakefield, 58, Hindon Street, London, S.W., a contrivance of tiers of rings of copper wire, weighted by a cast iron base, which he has patented under the name of "Floral Aid." It is one of the now many means of holding flowers in water in position, and will be found convenient for the purpose.

GARDENING APPOINTMENT.

MR. BARTHOLOMEW POWER, who for several years has worked in the Royal Gardens, Windsor, is appointed head gardener to Their Highnesses Prince and Princess Henry of Pless.

JOURNALS, &c., RECEIVED.

Vinton's (late Morton's) *Agricultural Almanac*. The *American Journal of Science*. *Bulletin de la Société Française des Roséristes*. *Revue Horticole*. List of Seeds collected in the year 1900 at La Mortola, near Ventimiglia, Italy. *Le Jardin*. List of Seeds offered by Le Muséum d'Histoire Naturelle, 57, Rue Cuvier, Paris.

CATALOGUES RECEIVED.

Vegetable, Fruit, and Flower Seeds.—Messrs. Alex. Dickson and Sons, Limited, 55, Royal Avenue, Belfast, and The Nurseries, Newtownards.
Farm Seeds.—Messrs. Wm. Clibran and Sons, Manchester and Altrincham.
Rose Catalogue and Guide.—Messrs. Benjamin R. Cant and Sons, The Old Rose Gardens, Colchester.
Forest and Ornamental Trees, Shrubs, &c.—Messrs. Hogg and Wood, Coldstream and Duns, N.B.
Sutton's Amateur Guide in Horticulture for 1901, and Complete List of Garden Seeds.—Messrs. Sutton and Sons, Reading.
Forest Trees, Roses, Fruit Trees, &c.—Messrs. F. Urquhart and Co. Springfield, Ness Walk, Inverness.
Chrysanthemums.—Messrs. C. E. and F. W. Lilley, Limited, Les Hêtres, St. Peter-in-the-Wood, Guernsey.
Competitors' Guide and General Seed List.—Messrs. Dobbie and Co., Rothesay, N.B.
Seeds and Garden Sundries.—Messrs. Wm. Paul and Sons, Waltham Cross, Herts.
General List of Garden Seeds.—Messrs. H. Cannell and Sons, Swanley, Kent.
Garden Seeds.—Messrs. Toogood and Sons, Southampton.

EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editors invite readers to send in questions relating to matters upon which they wish advice from competent authorities. With that object they wish to make the "Answers to Correspondents" column a conspicuous feature, and when queries are printed, they hope that their readers will kindly give enquirers the benefit of their assistance. All communications must be written clearly on one side only of the paper, and addressed to the EDITORS OF THE GARDEN, accompanied by name and address of the sender.

As regards photographs, if payment be desired, the Editors ask that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editors will not be responsible for the return of artistic or literary contributions which they may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN will alone be recognised as acceptance.

Edited by MISS JEKYLL and MR. E. T. COOK.

Offices: 20, Tavistock Street, Covent Garden, W.C.

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THE GARDEN.

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[JANUARY 12, 1901.

PATHS IN OUTER GARDEN SPACES.

PATHS in pleasure grounds that are beyond the province of the trimly-kept garden, and yet have to be somewhat tamed from the mere narrow track such as serves for the gamekeeper on his rounds, admit of varied treatment. The nature of the place and the requirements of those who use the paths will determine their general nature and settle whether they are to be of turf or of something that must be dry in all weathers. But grass or gravel are not the only alternatives. One kind of path not often seen, but always pleasant, and at one time of year distinctly beautiful, can be made of the common Heather (*Calluna vulgaris*). We know such a path 12 feet wide and some hundreds of feet long carpeted with this native Heath, mown once a year, and feeling like a thick piled carpet to the feet; grey-green in summer, bronze-coloured in late autumn, and in the second and third weeks of August thickly set with short sprays of the low-toned pink of the Heather bloom. It is not so dry as a gravel path, but a good deal drier than grass, and has a pleasant feeling of elasticity that is absent in common turf.

Many are the pleasure grounds in the south of England and Scotland where the soil is sandy and, perhaps, peaty. Any such place can have these pleasant heathy paths. We have even seen them on a poor sandy clay, scarcely good enough to call loam, in Sussex; for *Calluna*, unlike the other Heaths, will grow willingly in clay. In the case quoted the plant was wild in the place.

In a Fir wood, the bare earth carpeted with Fir needles always makes a suitable path, and one that is always dry; the only thing to correct is to fill up any places where the bare roots rise up above the path level. For in these informal paths, where we want to look about, and at the trees, there should be no danger of being tripped up. The path, of whatever nature, should be wide enough for two persons—5 feet to 6 feet is ample; but it should have quite a different character from a garden path, in that its edges are not defined or straightened.

One may often see in the outskirts of an old garden a dense wood of tall trees that once was only a growth of shrubbery size. The walk was originally bordered by a Box edging, and there may have been a strip of flowers between it and the shrubs. Here and there

one may still see a yard or two of straggling Box nearly 2 feet high. Of course, this edging should have been removed as soon as the place became a wood, for after a certain time its original use as a formal edging to a trim plantation ceased to exist.

Nothing is pleasanter in woodland than broad, grassy ways, well enough levelled to ensure safety to an unheeding walker. In early spring, before the grass has grown any height, here is the place where Daffodils can best be seen and enjoyed, some in the clear grass and some running back in wide drifts into any side opening of the wood. If the grass is cut in June, when the Daffodil foliage is ripe, and again early in September, these two mowings will suffice for the year.

In many woody places where shade is fairly thick, if there is any grass it will probably be full of moss. No path-carpet is more beautiful than a mossy one; indeed, where grass walks from the garden pass into woodland, the mossy character so sympathetic to the wood should be treasured, and the moss should not be scratched out with iron rakes. Often in the lawn proper a mixture of moss and grass is desirable, though the good gardener has probably been taught that all moss is hateful. In such places, though it may be well to check it by raking out every four or five years, it should by no means be destroyed, for in the lawn spaces adjoining trees or woodland the moss is right and harmonious.

There are paths for the garden and paths for the wood. A mistaken zeal that would insist on the trimness of the straight-edged garden walk in woodland or wild is just as much misplaced as if by slothful oversight an accumulation of dead leaves or other *débris* of natural decay were permitted to remain in the region of formal terrace or parterre.

THE GARDEN AT THE OLD POSTING INN.

I HAVE long been a lover of gardens, and, luckily for me, my taste in them is catholic. I am ready to see beauty in every kind—the stately pleasaunce, the homely cottage, the suburban strip, all have their different ways of pleasing. Lately, however, I have met with a new type, new at least to me. It is a type that will soon be as extinct as the dodo, and may therefore merit description for once.

The garden I have in my mind's eye belongs to an old posting-house that stands exactly as it did long, long years ago, when day and night the steaming coach-horses drew up before its hospitable doors. The same solid pieces of old Oak, dower-chest, and dresser are in the

dwelling-rooms, dark with age and bright with use and beeswax. There is still the same generous yet simple fare, nearly all home-made; the same kind of servants, men and women who belong to the place and are attached to it. A bright-eyed serving-maid attends to you at table—blessed relief from the usual discontented alien in rusty black and a damp table-napkin. Best of all, there is the fair, quaint garden that smiles at you with its young-old face as only a hostel garden can.

It will not take us long to wander through the part of the domain they call the pleasure garden. There is a lawn with Yews and Weeping Willows, a Walnut tree, and seats and benches. Here one may sit and dream, or smoke or drink one's tea. The garden behind the wall of shrubs is the part I love the best.

It is always sunny here. A kitchen garden has to be sunny or things would not grow in it. The flowers have found this out, and come in flocks to take possession of every unoccupied corner. There is no room for weeds. Musk and Violets meander among the Currant bushes, masses of Mignonette nestle up against the Pear trees, honey-scented Candytuft and wallflower-coloured Marigolds struggle for existence, and find it too among the crimson Beetroot plants and Scarlet Runners, the patches of Parsley, and the forests of Mint, Sweet Savoury, and Thyme.

At the bottom of the garden stands a summer-house. No flimsy structure made up of creepers and earwigs, but a solid stone and wooden arbour, where you may sit in safety and enjoy the delicious scent that comes from distant dykes of Celery or the bushes of Old Man and Lavender that are close at hand. Here you may watch the robin, who, perfectly conscious of your presence, perches on the branches of the nearest Apple tree and sings you his best song. How mistaken are the scientists who tell us birds only sing when courting! What about the robin? If they are right, why does robin sing so bravely in the autumn days, when all his family are of age and his youthful follies are over?

Sometimes as you sit in this summer-house you perceive a new fragrance in the air—a wholesome bitter smell. This means they are brewing—"Twice one week and once the next." This was the old order, and it has not been changed.

Now the ruddy, wrinkled-faced gardener comes by. His cheeks are like two of his own rosy Apples that have been kept awhile. He has filled his basket with good things we shall see presently on the luncheon-table. A few belated Peas, French Beans of course—why French I sometimes wonder—Lettuces, crisp and green, Kale, and the homely Cabbage. I do like Cabbages, especially to look at, and most especially in the early morning when the dew is on them. I do not know why Cabbages have such a fascinating fashion of retaining their dewdrops and raindrops. You will find their much-veined leaves sprinkled over with

gleaming quicksilver globules quite late in the day, when all the rest of the foliage in the garden is dry.

Let us take to the paths again. We are out of the land of gravel now. They are spread with crushed grey stone, which harmonises well with the neat borders of dark-green Box. What a boon to see Box edgings once more instead of tiles! Lifeless and characterless as typewriting, tiles neither change nor grow, and are only fit for cemeteries. Between the Box edging and the Gooseberry bushes a long, thick streak of vivid green is showing. "What is this?" we ask the gardener. "Parsley," is his answer, pausing for a moment as he digs up his Onions. Parsley seems everywhere, in all ages and stages. He says "the Missus can never have enough of it," and it is slow growing stuff, or, rather, slow in germinating. With a drop in his voice, which is meant apologetically, for he is a gentleman at heart, as all the gardeners I meet with are, he asks us whether we know what the country folk say about Parsley—"that it goes to the devil and back twice before coming up."

He has much to tell us about his herbs, especially their medicinal value. He says his bush of Rue gets chopped to pieces to supply the farm. "Rue is a powerful foine physic; nothing like it for drenching heifers," which cryptic observation is as great a puzzle, on first hearing, as a "world" acrostic, but its meaning dawns upon one later on. We are curious to know where he grows his Camomile plants, and ask him. Scratching his head, he answers slowly, "I will not turn my tongue to deceive you, ladies, there is ne'er a bit left in the place. Years ago when my good wife was alive and the children about she would bile the blooms to keep the fever off. Now there's too many doctors about. Folks go to them for a cut finger—you pays your penny or tuppence a week and all your doctoring is done for you—but the old ways was best."

The farm is just behind the brew-house, and stacks of this year's hay add their quota of fragrance to this scented garden. Going back to the house by another way we pass the Asparagus bed, always beautiful; long, level rows of roving Scarlet Runners, and the jagged-leaved Parsnip. Carrots in their autumn stage are nearly as beautiful as Asparagus—more so in colour. I have read somewhere that the King of Siam when in England was so pleased with Carrot-green that he now grows it himself for purely æsthetic reasons. I have felt a respect for this potentate ever since.

The delicious Marrow-fats are over—worse luck! but we make up for it in Sweet Peas. These are still in their glory, and are nodding their pink, white, and purplish heads at us from their sun-bathed sticks in the kitchen garden as they never will in more distinguished quarters. "We are Peas," they seem to say, "then let us be treated as such, in spite of the flowers we give you."

As we saunter slowly on a Golden Codlin falls now and then at our feet with a thud, or drops softly on to the undergrowth of Violas, Asters, Nasturtiums, and Mignonette. Every corner of the garden and the odd bits of space are massed with Lily of the Valley leaves, which make us think enviously of what this hostel garden must be in early spring. So do the Moss Rose bushes and the clumps of blue-green Pink spikes, or, rather, these whisper to us of the glories June would lavish were we here to enjoy them. Our onward path is narrowed by the luxuriance of pale gold single Sunflowers, clusters of pinky purple Phlox, crimson Fuchsias, and Michaelmas Daisies

brown with bees. Stay! what can this be that smells so passing sweet? It is an autumn Violet hiding its long-stalked head mid many leaves. There is one of Nature's mysteries. Why does one Violet smell as strong as twenty? Everyone must have noticed how the scent of one Violet will fill a room.

As we pass the little Jasmine and Clematis-covered gate on our way out and return to the turf, the Weeping Willows and the Yew trees, our only consolation in leaving so many pleasant things behind us is the determination to come again next year and see them all once more.

F. A. B.

EDITORS' TABLE.

COLLETIA CRUCIATA (SYN., BICTONENSE).

Mr. Burbidge sends from the Botanic Gardens, Dublin, sprigs of this spiny-branched Chilean shrub, which, owing to the recent mild weather, has flowered freely in many parts. Recently we also received flowering branches from Aldenham House



COLLETIA CRUCIATA.

Gardens, and made a little drawing of one of the shoots, which, of course, are much reduced. The flowers are white, inclined to cream colour, small, and borne profusely.

WINTER SWEET (CHIMONANTHUS FRAGRANS).

Mr. Anthony Waterer, Knap Hill Nursery, Woking, kindly forwards us a box of sprays of the above delightful sweet-scented winter-flowering shrub, together with the accompanying note: "I am sending a few flowers of Calycanthus præcox, which I thought you might like to see. It is flowering finely this winter. I have also the yellow Aconite and two Scilla sibirica in bloom." Calycanthus præcox is a synonym of the Chimonanthus.

WELL-BERRIED TWIGS OF EUONYMUS RADICANS.

We receive from "A. C. B.," North Devon, some well-berryed twigs of Euonymus radicans, with the accompanying remarks: "The frost seems to have no effect in preventing the seed capsules opening, for the bush is quite red with the seeds, whereas there was hardly a glint a week ago. Berberis Darwini is in blossom, but not fully out, still it is an object of beauty. We had delicious Mushrooms picked on the 'Barrows' on which we play golf."

NOTES OF THE WEEK.

Coloured plate of Nymphæa Froebeli.—We omitted to mention last week that the drawing of this Nymphæa was made by Mr. Moon at Gravetye.

The Kew Guild.—The annual general meeting of this association will take place on Monday, May 20 (eve of the Temple show), at the Holborn Restaurant, at 7 p.m., to be followed by the annual dinner at 7.45 p.m. Members who desire to be present should inform the secretary, Mr. W. Watson, Royal Gardens, Kew, before May 1. Tickets, 5s. each.

Societe Nationale d'Horticulture.—We learn from *Le Jardin* that MM. Salomon and Defresne have been elected vice-presidents, MM. Georges Truffault and Nomplat secretaries, and the following gentlemen councillors of the above society:—MM. Nonin, Léon Duval, Debrie, Duvillard, and Deny, the latter in the place of M. Defresne.

Croydon and District Horticultural Society.—The annual general meeting of members and subscribers will be held in the society's room at the Sunflower Hotel, George Street, on Tuesday evening, January 15, at 8 p.m., for the election of officers for the year, and other business. All interested in horticulture are invited to attend.—JOHN GREGORY, Hon. Secretary, 60, Canterbury Road, Croydon.

Royal Horticultural Society.—The first meeting of the committees of the Royal Horticultural Society in 1901 will be held, as usual, in the Drill Hall, Buckingham Gate, Westminster, on Tuesday next, January 15. A paper on "Recent Developments in the Treatment of Diseases and Insects Injurious to Orchard Crops," by Professor Beach, U.S.A., will be read at three o'clock. The scientific committee will meet at 4 p.m. To prevent misunderstanding it may be mentioned that the committees of 1900 do not vacate office until the date of the annual meeting, 1901, and in like manner all Fellows' tickets of 1900 are available until February 12, 1901.

Mr. J. E. Wentholt has been chosen to succeed Mr. E. H. Krelage as president of the Société Générale de Bulbiculture de Haarlem (Holland). We recently announced the retirement of Mr. Krelage, who had held the post for forty years. Members of the society have now decided to present Mr. Krelage with his portrait, painted by the Dutch artist, Haverman, together with an album containing the names of the subscribers, who number over 1,000.

Flowers at Nice.—Our numerous countrymen who have villas and gardens on the Riviera may be glad to know from one of their number, who is among our most distinguished amateurs, that the beautiful *Tecophylea cyanocrocus* seems to be quite happy near Nice. He also praises *Geraniums Fratelli ferrario* (coral coloured) and *Paul Crampel* (scarlet) as excellent winter bloomers. Of *Buddleia salicifolia* he says:—"It is the very sweetest winter flower yet invented; I wonder why it is never in a cool greenhouse."

Narcissus pallidus præcox.—We have in this garden already an open bloom of this charming Daffodil. The bulb originally was one of a batch of imported ones planted in the grass, and it flowered quite early in January in 1898 and 1899. I then moved it to a more sheltered position, and last season it opened on January 27, apparently resenting removal; however, I am glad to say that this year it has increased. I hope it will be useful as a seed parent.—*Lanarth, St. Kererac, Cornwall.*

Hardy blue Salvias.—In a note from your correspondent "H.," published in your issue of the 5th inst., I was a little surprised to see no mention made either of *S. ringens* or *S. angustifolia*. Both have flowers of a fine clear blue; the former a lavender-blue, the latter a darker and brighter. Both species have stood well in the last two winters here. Habit and foliage are distinct, *S. ringens* being a dwarf species, the leaves somewhat Sage-like; *S. angustifolia* from 2 feet to 3 feet high. Both species should, I think, be better known.—H. S. LEONARD, *Guildford.*

Mr. Sowerby Wallis, who was for nearly thirty years associated with the late Mr. G. J. Symons, F.R.S., and has since the latter's death carried on the British Rainfall Organisation, will be joined in the work by Dr. H. R. Mill, who has resigned the librarianship of the Royal Geographical Society, for that purpose.

Hampstead Heath and electric tubular railway.—We are pleased to know that there is decided opposition to the proposed electric railway burrowing under Hampstead Heath. It is surely quite possible to erect suitable stations near the Heath without actually coming into contact with it. Few beautiful natural open spaces are left to Londoners, and even historic Hampstead is threatened.

Kew Bulletin.—The present issue of the "Kew Bulletin" of miscellaneous information is devoted to a list of seeds of hardy herbaceous plants, annual and perennial, and of trees and shrubs, which for the most part have ripened at Kew during the year 1900. These seeds are not sold to the general public, but are available for exchange with colonial, Indian, and foreign botanic gardens, as well as with regular correspondents of Kew. No application, except from remote colonial possessions, can be entertained after the end of March.

Seeds from La Mortola.—Mr. Thomas Hanbury, F.L.S., La Mortola, Ventimiglia, has sent to us his list of seeds collected during the past year in his well-known garden in Italy. These, comprising no less than 1,600 species, together with young plants and cuttings of a number of succulents, are offered in exchange for any of the following desiderata. Succulents: Trees and shrubs of extra tropical countries, as natives of South Africa, Australia, Argentina, Mexico, South and North America, &c. Plants of the Mediterranean region: Proteaceae.

Campanula mirabilis not a perennial.—I fear I have been obliged to abandon all hope of *Campanula mirabilis* acting as a perennial, at any rate in my garden. A seedling raised by myself flowered this season here, in its third year, and was very pretty, though smaller than I expected. It is now, alas! quite dead, and I foresee a similar fate in store for other seedlings that have not yet flowered.—S. G. R., *Yalding, Kent*

NOTES ON LILIES.

LILIES FROM JAPAN.

PLANTING AND POTTING.

A SUITABLE season to plant or pot Lilies has more than once aroused controversy, but there can be no doubt that unless exceptional conditions prevail it is better when they are simply removed from one part of the garden to another to carry out that operation in the autumn.

Still, one cannot overlook the fact that immense numbers of splendid bulbs of a few kinds that we receive from Japan do not reach here until the winter; indeed, the new year is a month or two old before some of them arrive, yet they are so firm and solid as to yield most satisfactory results if planted or potted then.

So erratic a crop is it elsewhere that we practically depend upon Japan for our supply of *Lilium auratum*, while the huge quantities of *L. speciosum* received therefrom have made a great difference in the demand for Dutch bulbs of this species. *L. longiflorum*, too, which reaches here earlier than the others, has become a general favourite, either for planting out, growing in pots, forcing, or retarding, though for forcing purposes they cannot be had in bloom nearly as early as the Bermuda-grown *Harrisii*, but as a set-off to this retarded ones may be flowered at any season of the year.

In dealing with these Japanese Lily bulbs I will first take the case of

LILIIUM AURATUM.

the bulbs of which in many instances appear to me inferior to those we used to get eight or ten years

ago. Probably the disease which gives a good deal of trouble is answerable for this. The variety *platyphyllum* or *macranthum*, for these two names are used indiscriminately, has particularly solid bulbs, with fewer and stouter scales than occurs in the ordinary *L. auratum*, while those of the two charming varieties, *Wittei* or *virginale* and *rubro-vittatum*, are generally smaller, but flower well.

With a few individual exceptions the bulbs of

LILIIUM SPECIOSUM

from Japan consist of three forms. First, the variety *Krætzleri*, a white flower with a greenish stripe in the centre of the petals. This is usually sold under the name of *album*, whereas the original *album*, which can be obtained from the Dutch, is quite distinct. The bulbs of the true *album* are brownish red, in *Krætzleri* they are yellowish; the leaves of this last are long and pale green, while the flowers of *album* are flushed with chocolate on the exterior, and are without the greenish central stripe. The second Japanese variety to mention is *Melpomene*, the bulbs of which are very deeply tinted, and show a great tendency to divide up into several crowns. The flowers of this are the brightest coloured of all, with a nearly white margin, which serves to intensify their depth of colouring. The third form from Japan is much in the way of a good type of the old Dutch variety *rubrum*, and is often grown as *macranthum* and *rubrum superbum*. In the cases as received the bulbs of *Melpomene* and *macranthum* are frequently mixed, but they may be selected with a moderate amount of confidence, those of *Melpomene* being deeper coloured and more divided up into separate crowns than the bulb of the other. Both are usually sold in the London auction rooms in cases as received from Japan under the name of *L. speciosum rubrum*. While the bulk consists of the three forms above specified, individual variations crop up amongst them; thus the variety *album novum* occasionally appears with the bulbs of *Krætzleri*, from which those of *album novum* cannot be distinguished. The bright golden pollen is, however, in the flowering stage a most distinctive feature. Different forms more or less marked occur also among the coloured kinds.

L. LONGIFLORUM

goes to rest naturally and starts into growth earlier than the others, so that the larger importations reach here before those of *L. auratum* or *L. speciosum*. Most of those from Japan consist of a fine bold flowering type, known usually as *Wilsoni*, while the others are divided between *giganteum* (that grand form recently figured in *THE GARDEN*) and *Takesima*, in which the base of the stems and exterior of the flower-buds are tinged with purple.

L. TIGRINUM.

The bulbs of the Tiger Lily from Japan are remarkable for their immense size and corresponding floral display. As a rule they nearly all consist of the variety *Fortunei*, characterised by very woolly stems and flower-buds and rather pale tinted blossoms, which in vigorous examples are disposed in a large pyramidal-shaped head. I recently measured several of the bulbs just received from Japan and they exceeded 13 inches in circumference, a size I never knew European-grown ones to attain. This variety is rather later in flowering than the others.

L. ELEGANS

is also sent here in several varieties, and though the bulbs are small they mostly travel well, but as they grow in an equally satisfactory manner in Holland, our supplies are chiefly obtained from that source.

Other Lilies of which our stock is principally kept up by importations from Japan are—*L. Batemannæ*, which flowers well the first season, but quickly deteriorates; *L. odorum*, frequently sold as *L. Browni* (a totally different Lily), and occasionally as *L. japonicum Colchesteri*. This is one of the Trumpet Lilies, with cream-coloured blossoms suffused on the exterior with purplish chocolate. The bulbs travel badly, being so liable to decay just at the base, and though sound bulbs

can be depended upon for the first season many fail to grow afterwards.

L. Kramerii comes regularly from Japan each autumn; some flower the following summer, but nearly all perish by the time autumn comes round again. Its near ally—*L. rubellum*—seems more robust, but does not hold out much promise of being a satisfactory Lily in this country. *L. Hansonii*, that pretty yellow wax-like flower of the Martagon group, travels well, and in many gardens soon becomes established.

Other kinds grown by the Japanese and occasionally sent to this country are *L. Alexandræ*, known also as *L. Ukeyuri*, which is much rarer than it was a few years ago; *L. Leichtlini* and *L. Maximowiczii*, of which much the same may be said; with *L. callosum*, *L. concolor*, *L. c. Coridion*, *L. cordifolium*, *L. avenaceum*, and *L. medeoloides*.
T.

TROPICAL FRUITS.

BY ONE WHO HAS GROWN THEM.

IT is a common opinion that the fruit of the tropics is not so good as that we have at home. This judgment is to be received with caution. It is suspect, owing to the prejudice with which we as a nation regard all that is new, especially if the novelty comes from abroad. Whether Durian, Mangosteen, Pine, Cherimoya, Banana, Sweet-cup, Mango, and Orange do or do not maintain so high a level of excellence as Apple, Pear, Peach, Strawberry, Apricot, Plum, Cherry, and Gooseberry must ever remain a matter of individual taste. The writer, who has exchanged the insularity of Great Britain for the insularity of Jamaica, and whose prejudices probably increase as his outlook upon the world grows smaller, here records that if he had to choose one fruit it would be the Orange, and that if he might have a second it would take a long season of debate to decide between the rival claims of the Banana and the Apple.

The visitor who arrives in Jamaica in November will see piles of green-skinned Oranges in the market. Tasting them he finds them, much to his surprise, perfectly sweet. The flavour is good, but improves as day by day the green skin turns yellow. Sweetness is the distinguishing characteristic of tropical fruit. To add sugar to a Ripley Pine would be to gild refined gold. It would not "bring out the flavour," as is said at home, but would make it overpoweringly and nauseously sweet.

Passing by bundles of Sugar-cane, familiar Bananas, and Plantains which as yet he does not distinguish from them, the attention of the visitor to the market is arrested by broad, squat, green Fir-cones. These are fruits of three kinds of Anonaceæ, *Cherimoya*, *Sweet-sop*, and *Sow-sop*. Broken open they disclose an inviting white custard, which in the case of *Cherimoya* and *Sweet-sop* is as good as it looks, luscious and creamy. The strong scent of *Sow-sop* gives a warning to proceed with caution. The flesh has a disagreeable blankety substance mixed with it, and the taste is coarse and repellent. The juice squeezed out and used alone is, however, excellent, and ice made with it is highly esteemed. It is one of the few tropical fruits which demands sugar. Later on, about April, Custard Apple comes in; it has much the same character as *Sweet-sop*, but is browner outside. All these Anonaceæ are nice easy things to eat clean to handle, a touch of the knife splits them in half, and the bountiful supply of thick custard is scooped out with a spoon. *Cherimoya*, which likes a cool locality, is the first to ripen in September, followed in October by *Sweet-sop*; both are over in December. *Sow-sop* ripens at any time.

Oranges are the great stand-by in winter, and have a long season; October to March is the best of it, though some trees carry fruit all through the year. Nothing is better than the common Jamaica Orange, which is raised from seed. The fastidious affect to prefer the Navel Orange, which is seedless, and it is being grown for the market. People who like Tangerines may have them, and of large size. All the Citrus fruits do well. Limes produce abundantly, and are better and hardier than Lemons, which they have almost entirely displaced; they are full of juice and easily squeezed. Shaddocks look handsome and imposing on the trees—imposing in both senses, for the best of them is bad to eat. More sought after is the smaller Grape-fruit, which has a considerable vogue in America for a curious reason, not to be hinted at here. It is a size larger than an Orange, and very juicy; the way to eat it is to cut it in half across the equator, take out the core, tease up the flesh with a fork, add sugar and spoon out the juice. It leaves a slight bitter after-taste. The negroes call it Fibbeny or Forbiddeny, a corruption of Forbidden Fruit. Citrons grow, but no use is made of them. Seville Oranges, always beautiful, and always laden with fruit, are equally neglected, few people caring to make Marmalade. Seville Sweet is a cross, perpetually bearing, like its sour parent, and sufficiently sweet to induce some people to eat it when other fruit is scarce.

Just as Oranges go out Pines come in; the best of these is the Ripley, superb in quality, but it is not a favourite in the market; it is meanly shaped, and does not bear a long journey well; and so, as in many cases, the market-served public has to put up with an inferior thing. Here is a sign by which a good Pine may be at once known—it must cut yellow. A white Pine is a cowboy, whose acrid virulence has to be counteracted by sugar. Of such beware! Beware, too, of a fruit whose praises have been sung by those who have little experience of it—*Monstera deliciosa*—delicious and Pine-like indeed in scent, but those black threads in the fragrant flesh are flinty darts which will stick in tongue and throat and cause irritation. A tiny mouthful and you will say, "I wish I had more;" as much as you want, and it will be "Never again." The very look of the plant argues it unwholesome. What but treachery can you expect of big "lords and ladies?"

The Passion Flowers ripen chiefly in summer, but Granadillas are to be had at intervals all through the year. As in form so in size, they are best represented by eggs—pretty little Love-in-a-mist by that of the hedge-sparrow; Sweet-cups by hens' eggs; Pomme d'Or is a turkey's, and nothing could lay Granadilla but the roc, for it is as big as a child's head. Granadilla, on account of its large size and the glassful of juicy Gooseberry-like pulp it gives, is the most esteemed; but undoubtedly the best is Granadita or Mountain Sweet-cup (*Passiflora edulis*). It has a refinement of flavour hard to match, with just a hint of acidity to make it refreshing. Though occasionally grown in England, it never seems to become popular, possibly because it does not properly ripen. Its case may be that of the Loquat, whose fruit in Europe is a poor thing, and which here, in the hills of Jamaica, rivals the Grape in excellence. Figs have also a different taste to any that are to be met with in Italy. All good Figs are sweet, but these are exceedingly luscious, having the taste of dried Figs, and only a mouthful in size; they give two crops a year, but are irregular in fruiting. Loquats bear once only, about Christmas.

The supply of Figs, which is very small, is supplemented by the gigantic crops of the Star Apple (*Chrysophyllum Cainito*). This attains the dimensions of a forest tree, and requires no attention. The fruit resembles a small Orange, with a smooth shiny skin, purple in the coarser variety, green in the finer one; cut transversely it exhibits the star which gives its name. The pulp is white in the middle, turning towards purple or green, according to the sort, as it gets nearer the rind. The few large black seeds are no hindrance to the eating of it, and the only thing to which exception may be taken is a curious stickiness or gumminess which clings to the lips. The taste is exactly that of Fig. It comes in about April, and it is a favourite device to eat it with the juice of Oranges, which are then getting scarce. The resulting mixture is known as "Matrimony."

Pomegranates grow quickly, and the fruit is much better and sweeter than in Europe. Never cut a Pomegranate. Make just a sufficiently deep incision in the rind with a knife, and then break it open. The time to appreciate it is when you have been working in the sun. Far better than to drink is to step into the shade and crush the juicy pips between the teeth, filling the mouth with the pleasant-tasting water and slowly swallowing it.

The Papaw has been several times mentioned in these columns lately, and it suffices to say that it is, as far as taste goes, a poor kind of Melon, growing on an upright tree-stem, and borne throughout the year.

Jack (*Artocarpus integrifolia*) is a handsome tree nearly allied to Bread-fruit (*A. incisa*). Its immense fruits, often considerably larger than a man's head, are produced upon the trunk. They are full of lusciously sweet crisp flesh, agreeable to the taste, but few people overcome their dislike to the smell of new leather, which even the smallest piece diffuses powerfully through the house. Those who do like it are very fond of it. Its sweetness makes it a capital adjunct to curry. The Bread-fruit itself may just be mentioned in this connection, though its place is more properly with vegetables. It is always used before it is ripe, and its green dimple-surfaced cannon ball is thrust just as it is into the live embers for about an hour. It is then peeled and cut into slices, forming a palatable kind of bread, rather close-grained and sticky.

The Banana is, take it all in all, the most useful fruit we have, easy to grow, prolific in bearing, with its great bunches weighing up to 100lbs., and always in season. Equally good raw or cooked, it is to all intents and purposes the Apple of the tropics, with this added advantage, that picked green and thoroughly boiled it is a good vegetable, tasting much like a floury Potato. The Plantain is an even better fruit, but it is not so easy to grow, except in localities and under conditions which exactly suit it.

How many people who eat chutney have an idea what a Mango tree looks like? Do they realise that it is a forest tree attaining to and often even exceeding the stature of an Oak? It is evergreen, with shining leaves exuberant in health. Originally introduced from India, it has run wild all over Jamaica, and needs no sort of cultivation. It gladdens the hearts of the children from July to October in the hills, for nobody hinders them from picking where they will. Its bountiful fruit pours down on the mountain paths and lies there rotting. Passers by eat it, the horses stop to bite, pigs mumble and chump, and still it is beyond all requirements. There are many kinds, of which East Indian and No. 11 are accounted the best. Other names are Hairy, Black or Greengage,

Flatside or Beef, Parrot, Cow, Hog, Yam, and Duckanoo, and every district has other varieties recognised as distinct but unnamed. Mangoes can never be good far from where they grow; ten days is an outside time to keep even hard kinds. They may be sent to England, and are sent, but it is as hopeless to form an idea of the true nature of a Mango from such specimen as from a sleepy Pear to apprehend the flavour of a good one. Prevalent notions on Mangoes are that they taste of turpentine, and are almost impossible to eat except in your bath. Some kinds, it is true, have a resinous smell and even a slightly resinous taste (No. 11 is a case in point), but by no means all. As for difficulty of eating, it is certainly unadvisable to negotiate one far from water; smearing of mouth and fingers, and very likely nose, would certainly take place, as it would with a Peach, a Pear, or an Orange, but on a plate nothing is easier to manage. In flavour they differ widely, suggesting Plum, Peach, Apricot, but chiefly to those who know them—Mango. When at its best the flesh is firm, with a good deal of juice contained in it, but the juice does not readily run out unless the knife is very blunt. Mangoes look like Kidney Potatoes with jackets of all hues of green and yellow, not infrequently blotched with red. The large flattened seed occupies a considerable space, reaching nearly to the edge of the fruit on two sides, but leaving a thick slice of "meat" on each of the other two, each slice, except in the case of the small black Mango, giving several mouthfuls.

The Coconut is so well known that it hardly requires to be mentioned. As a fruit it is chiefly used in a partially matured state, and is then called Water Coconut. Carts full of them crawl along the streets of Kingston, and who will may slake their thirst with the cloudy water, probably the most delicious of natural drinks.

Melons do not thrive as well as might be expected, and neither Water Melons nor Musk Melons are much seen. Grapes are having attention paid them, but scarcely repay it; crops are uncertain and the quality is poor. A useful little Apple is grown in the hills, and is doubly acceptable from the fact of having no core.

Naseberry (*Achras Sapota*) is found in the lowlands, and is much liked by some people. The tree is about the size of an Orange, the fruit small and round, brown in colour, and when ripe is of the consistency of a Medlar, with a flavour of dried Figs and brown sugar.

Guavas have run wild everywhere. They smell good, but raw are scarcely worth eating, and are full of extraordinarily hard small seeds, which must be swallowed. The tree looks something like a Quince. Other wild fruits are Lotus (*Byrsonima coriacea*), a tree bearing a profusion of small green Cherries just good enough to pick up and eat when out walking, but not worth bringing in. The same may be said of the pretty brown spheres of Brunfelsia, which, within a thick, soft jacket, enclose a seedy, juiceless centre of rather agreeable and very sweet taste. Blackberries are less good than at home, dried, as might be expected, in a hot climate. Not so the Strawberries, which cover the hills where moisture is abundant. These are not inferior to Swiss ones. A Bilberry (*Vaccinium meridionale*) also fruits plentifully at altitudes of 5,000 feet, and Cape Gooseberry is found rather lower down, appearing to have escaped from cultivation. The lovely Rose Apple (*Eugenia Jambos*) is a tree Myrtle of large stature with immense flowers, producing sweet fruit of the colour of Oak Apples and a little

larger. It tastes of rose-water. The first bite is good, but it is soon found to be insipid, and is not worth putting on the table. Otaheite Apple (*Eugenia malaccensis*) is also better to look at than to taste.

Himalayan Blackberry (*Rubus racemosus*), on the contrary, a cultivated fruit, is of the highest merit. It grows only in cool localities (3,000 feet to 5,000 feet), and its plum-coloured berries with their delicate downy bloom are as grateful to the palate as they are inviting to the eye.

Another prolific bearer of the higher mountains is the Tree Tomato or Jamaica Plum (*Cyphomandra betacea*). The fruits look like Victoria Plums, and have that sharp little "kick" which proclaims them to belong to the Solanaceæ. Indoors they must be eaten with sugar; out of doors they are

THE INDOOR GARDEN.

EUCHARIS AMAZONICA.

ON taking charge of the gardens here about three and a half years ago, I found the *Eucharis* (of which I enclose a photograph) planted in a deep bed of soil in one of the houses, and not looking at all comfortable or healthy. One of the first things I did was to take them all up, and, after washing the soil completely off them and having the foliage thoroughly cleaned, potted them in rather large, well-crooked pots, the soil consisting chiefly of sweet fibrous loam with all the fine soil knocked out, some charcoal and sand being added to keep the whole porous. After potting they were placed on a stage over the hot-water pipes in the stove light position, and were kept moderately dry always, but well damped overhead and around the pots twice or thrice a day, according to weather, &c. They began to improve at once, and are now well furnished with large, dark, healthy foliage. They have never been repotted, but have received slight top-dressings as required, and have also been watered at intervals with weak soot-water. They have generally flowered well at different seasons, but are at the present time better than ever, plenty of long spikes with the individual flowers larger than usual. I believe *Eucharis* are often ruined by too much interference with the roots in the way of potting, and, more often still, by overwatering, which practically signs their death-warrant.

J. G. WESTON.

Bessborough, Ireland.

TECOMA SMITHI.

FOR at least two months past this charming plant has added not a little to the beauty and brightness of the greenhouse. Its somewhat large, pendulous, orange-coloured flowers are arranged in a loose head at the end of the summer's shoots. Plants about 18 inches or so high are very pretty, and look particularly well if intermixed with such things as *Narcissus*, white *Bouvardias*, *Epacris*, &c., and having an undergrowth of green, furnished by *Selaginella* in pots. *Tecoma Smithi* is well

worth the attention of those interested in greenhouse plants, and should not be absent from the smallest collection. It is not difficult of culture, requiring but a cool house. Young plants may be raised from either seeds or cuttings inserted in early spring. When established in larger pots they should be allowed the full benefit of the sun, so that the growth made may be as strong and well matured as possible.

T. W.

GREENHOUSE PLANTS.

SEVERAL most interesting lists of hardy plants in flower at this, the most flowerless period of the year, have been recently given in *THE GARDEN*, and the thought occurred to me that it might not be altogether out of place to compile a short list of the plants now in bloom in my greenhouse. Although the lovers and cultivators of indoor plants may not be quite so numerous as are those devoted to the care of hardy plants, there must surely still be quite sufficient of such amongst your

readers to justify the inclusion of my list. I may, perhaps, be pardoned for saying, with all due respect to, and appreciation of, hardy flowers, that the indoor garden at this season plays, or should play, an important part in beautifying and rendering bright and interesting the practice of horticulture. For when practically everything (I speak advisedly, bearing in mind your correspondents' lists, exceptional though they be) out of doors is dormant, one naturally turns to the glass houses for relief from the monotony of leafless trees and shrubs and flowerless borders. If the indoor garden has been well attended to, with due forethought for the present time, it is a source of pleasure and, to my mind at least, a necessity. The following are the most noteworthy plants now in flower in my greenhouse:—*Calceolaria Burbridgei*, *Hibbertia dentata* (climber), *Epacris* (of sorts), one or two late *Chrysanthemums*, Chinese *Primulas* and *P. obconica*, *Cyclamen*, *Cestrum Newelli* and *C. aurantiacum*, *Polygala oppositifolia*, *Reinwardtia trigyna*, *Peristrophe speciosa*, *Tecoma Smithi*, *Narcissus Tazetta*, *Tulips*, &c. T. W.

CACTI IN THEIR NATURAL HABITATS.

PROBABLY, with the exception of absolutely barren wastes like the Sahara desert, no country presents a greater contrast to the lush luxuriance of our native vegetation than parts of Northern Mexico. In the dry season we find the main rivers dwindled to easily fordable streams, forming a mere thread in their wide and sinuous channels as compared with the roaring, turbid, bank-wide torrents which sweep down them in the wet season or even intermittently at other times when a storm manages to burst among the hills. We use the term "manages" advisedly, because not unfrequently during the dry periods the sky may become overcast, heavy rain-clouds gather, and from a distance these clouds may be perceived to be pouring down dense and streaky showers of rain in the upper air, which the lower-heated stratum absorbs and evaporates long before it reaches the ground. Naturally where the loftier hills intervene in such cases the downpour reaches the upper ravines, and then is very apt to trap the unwary traveller between two fords, owing to the sudden rise engendered locally in the rivers. Otherwise, although the track is seamed with deep rocky "arroyas" or tributary stream channels, water is rarely seen, and, if visible, is probably so charged with alkali as to be undrinkable. The wayfarer, however, equipped with a bag of Oranges on one side his horse, a bag of hard-boiled eggs, and a few "tortillas" or native cakes, made of unleavened paste and finger-marks, plus, maybe, a bottle of "Mescal" or native spirits, can keep himself going very well under the shade of his broad sombrero, while his steed will be contented with a good drink once or twice a day when the Fates are kind. In the upper alluvial deposits—we cannot call them plains—of the larger rivers the soil is so fertile and the climate so propitious, in conjunction with the sub-terrestrial water supply present in such spots, that three crops of Corn can be won in the year, and here and there are seen straggling orchards of Pomegranates, Oranges, sweet and sour, and huge *Opuntias* grown for their fruit. In these last it is very curious to note how the primary oval, flat, pseudo leaves of the Cactus in course of time become thick and almost cylindrical, so as to form a substantial trunk some feet in height, the joints, too, becoming so thickened as almost to disappear. These old leaves if detached and dissected are found to be built up of numerous separate layers of hard wood involving very beautiful fretwork designs, which would appear capable of great decorative utility in cabinet work, though we never saw specimens of such.

The wild vegetation everywhere consists mainly of Cacti of numerous species, the predominant one in Sonora being a *Cereus* (locally termed *Pitayo*), which forms huge branches of prickly ribbed Cucumber-like growths 10 feet to 12 feet high and several inches through, a dozen or so



EUCHARIS AMAZONICA AT BESSBOROUGH.

refreshing to the thirsty. Those that lie under the trees and have become mellow are the best.

Most of the Jamaica fruits have now been mentioned, but the list is not exhaustive. There are besides Tamarind, Mammee, Avocados of two kinds, Cashew, Genip, Wanglow, and possibly yet more. Some are only names to the writer, who has never seen them, and describes only what he knows. Ending as he began with the question of the relative excellence of tropical and temperate fruit, he will conclude by saying that he likes tropical best, because there is more of it and all may enjoy it. In England fruit is the luxury of the well-to-do; in Jamaica it is the natural heritage of the poor.

W. J.

[Concerning the Persimmon, see a note in *THE GARDEN* of last week.—Eds.]

such Cucumbers, rarely branched, constituting a plant. The rugged porphyritic mountain sides, gleaming with all the tints of the rainbow, literally bristle with these, thousands being visible at a time, large specimens often being seen projecting from a mere crevice in the hot, baking rocks without apparently a particle of soil proper to support them. Leaving the hills and entering upon the prairie-like plains which intersect them, we shall find this species dotting the surface, but mingled with others of all shapes and forms, some with long, slender but always spiky ramifications *à la* bramble, but infinitely more ferocious, some dwarfed into little heaps of grey-haired cannon balls, coroneted, perhaps, with rings of rosy or primrose flowers. Next the common *Opuntia* confronts us with a fine show of primrose blossoms on a larger scale, and beneath them we may find the shed fruits of a previous crop rooting comfortably into the hot sand as simple leaves would do, and evidently quite ready to become plants independently of the contained seed, since every little spiky knob is an incipient bud even on the fruit itself. Rarely on some steep acclivity we may see a few stately specimens of the "Saguaro" or *Cereus giganteus* 20 feet or 30 feet high, and weird indeed in their grotesqueness and indications of immense age. Here and there in the landscape we perceive the lofty mountains and the prevailing lower hills looking like heaps of burnt road metal, diversified by isolated "mesas" or table lands, usually consisting of an elevated plateau, capped by a thick stratum of basalt, the naked columns of which fringe the precipitous cliffs which form the mesa boundaries. On the top are what are called the bad lands, flat reaches of pebbles and sand, sterile save for acres of *Opuntia horrida*, which clothes them as our Bracken does our heaths, but in a far more vicious fashion. This species is admirably named. It grows about 3 feet high, each plant having a trunk about 1 foot in height, surmounted by a roundish bush of ramifications. Trunk and ramifications are all of a light, glaucous green, and resemble a close, thick-linked chain, from every joint of which projects a host of long 2-inch white spines, thick and strong enough to penetrate the stoutest boots, at the base of which spines there lurk myriads of tiny barbed thorns, which detach themselves when touched, and at first unfelt, work their way insidiously into the flesh, and are only removable by tweezers. A better protected plant it is impossible to conceive, and yet it seems to frequent habitats where protection is least required. Struck with a stick a plant of this species flies into a thousand pieces, each one ready to root where it lies, and thus convert its would-be destroyer into an extensive propagator instead.

To revert to the characteristics of the landscape, the dry nature of the climate, the fact that the torrential rains fall perpendicularly, and the existence over large areas of thick limestone cappings to thicker alluvial deposits, all lead to very singular formations. As the rivers cut down their channels, and in so doing cut through these limestone deposits, these latter then form capstones, locally preventing further denudation, and eventually giving rise to the appearance of lofty castellated buildings with absolutely sheer walls, which follow the outline of the cap exactly, forming bastions, towers, and squared edifices of inconceivably artificial appearance, though entirely the unaided work of the elements. These crop up quite unexpectedly at the turns and twists of the river valleys, and give a speciously romantic aspect to the scenery. The romance of the district is, however, far removed from the chivalrous ideas engendered by these seeming castles. Dotted along the tracks are seen mysterious mounds of stones, sometimes still surmounted by rude crosses, and enquiry of the guide elicits the fact that these indicate the localities of Apache raids and massacres, while here and there a ruined ranch will afford material for gruesome, hair-elevating tales of murderous attack and heroic resistance, dating but a few years back, and, maybe, connected with a rumour that a few Apache braves have recently escaped from their reservations to the warpath, which brings the horrors well home

to the traveller's comprehension and makes him shift his trusty Winchester into handier propinquity. The pure air and lovely scenery, and, above all, the ever-grotesque and singular vegetation constantly recurring in new forms speedily, however, distract his thoughts and form a fund of never-to-be-forgotten memories. We may add that in the shady deep ravines Ferns are by no means rare, numerous species of *Pellaea*, *Notholaena*, *Gymnogramma*, *Anemia*, *Cheilanthes*, and *Adiantum* fringing the rocky crevices with their charming frondage. C. T. D.

CHRYSANTHEMUMS.

NEW INCURVED AND JAPANESE.

OF the large number of new Chrysanthemums introduced annually, many of which are of undoubted merit, and some of which must be included in every collection when intended for competition, many find a great difficulty in making a selection. I therefore propose to give a list of those which I believe to be among the best of the later introductions that may be of some help to those not in a position to inspect and judge for themselves. I am glad to find that English raisers are on the increase, and their introductions in many cases are highly meritorious; among the most prominent of the former may be mentioned the names of Messrs. Weeks, Seward, N. Molyneux, Perkins, and Owen Bros. As usual, the Japanese section claims the largest number of new varieties, though several fine and very promising incurved ones have come to light this season, and I am glad that such is the case, and unless some new life is infused into this class—once so popular—I fear they will not hold such a high position as they have hitherto done, as the craze for something new appears to be more and more apparent each year; nevertheless, when presented in such splendid condition as they were at the last November show of the National Chrysanthemum Society, to my mind they are equally as attractive as the more showy Japanese.

Golden Gloaming, a most promising Japanese variety, with broad loose florets, a pretty fawn and dull red colour, should make a fine and telling exhibition flower. Mrs. Bagnall Wylde, Japanese, somewhat after the colour and style of G. J. Warren, but with broader petals, is very promising. Miss Roberts, Japanese, unquestionably a magnificent one that should find a place in every collection; the colour is a very rich yellow, and the build of the bloom is most taking and graceful. The Princess, Japanese, a refined flower with slightly twisted florets; colour, a beautiful creamy white, a fine novelty. Rev. Douglas, Japanese, a well-built massive flower, soft canary yel-

low colour. General Buller, Japanese incurved, a magnificent flower, very large florets; colour, light buff. Lily Mountford, Japanese, though not quite new, is unquestionably one of the finest that have received awards this season. I have seen this growing for two seasons. The habit of the plant is all one can desire. It is said to be a sport from that well-known variety Mutual Friend, but the bloom is larger and more massive. The colour is a lovely rose. A most desirable variety.

Master E. Seymour, Japanese incurved, an immense flower, which should make a standard variety, belonging to the incurved type; colour, chestnut and bronzy gold of much promise. Earl of Arran, Japanese; colour, light yellow, long curling florets. Charles Longley, Japanese, a beautiful reflexed flower, will make a fine exhibition variety; colour, rich amaranth. Mrs. J. B. Bryant, Japanese, not quite new but a grand variety; colour, a deep rose with silvery reverse. Miss Evelyn Douglas, Japanese; colour, rosy pink, one of the most promising of Mr. Weeks' introductions, a very fine variety. Scottish Chief, Japanese, fine distinct pale yellow colour—a magnificent variety. Mrs. G. Mitcham, Japanese; colour, bright pink, good and distinct, having very broad petals. James Parker, Japanese, a fine creamy white, much in the way of Mutual Friend, a good exhibition variety. Mrs. R. Darby, Japanese, a fine deep flower and one of the best seen this year; colour, amaranth, silvery reverse. Henry Stowe, Japanese, a deeply built bloom, the florets incurving, colour distinct, being pale lavender. Frank Hammond, incurved, of the finest quality, one of the best introductions of late years; the flower is of full size, broad and well formed florets; colour, yellow and bronze, a grand exhibition bloom. Miss Florence Southam, incurved, a pretty



DEAD APPLE TREES CLOTHED WITH CLIMBING ROSES.

flower, pale yellow and striped with purple. Wallace E. Vouden, incurved, promising colour pale rose and buff. Miss Nellie Southam, incurved, a fine variety of much promise; colour, good purple. Bougainvillea, incurved; this should make a distinct and telling addition to this class, good broad florets, colour, deep purple, silvery reverse, very promising. Edith Hughes, incurved, a pretty sport from Miss Foster, colour, white and rose. Edinburgh, incurved; an Australian variety, a most promising flower, colour, silvery and purple. J. M. de la Drome, incurved, a refined bloom, very pleasing colour, golden yellow. Mrs. W. Home, incurved, a fine bronzy yellow, altogether a good and promising addition.

E. BECKETT.

SHORT STUDIES IN PLANT LIFE.

WINTER BUDS AND PLANT HIBERNATION.

UNLIKE those countries in the tropical regions of the world where an abundance of moisture prevails, and there is no need for growth to cease, our winters put a stop to it; and in southern climes the intense drought of the summer has a similar effect. Under these conditions plants adopt various methods of hibernation, thus in our trees the points of growth are concealed beneath the bud scales, which protect the delicate and undeveloped parts from frost.

Herbaceous perennials have underground structures of various kinds, which botanists call rhizomes, rootstocks, corms, bulbs, &c. Biennials, too, have thick roots for the storage of food, but annuals can only depend upon their seeds for preserving the life of the race during the resting seasons.

It is not my purpose to describe the various forms of these familiar things, but rather to look at the principle of hibernation, and consider some plants not so generally known as our bulbous garden plants. We will commence with the winter buds of our trees, &c., and deal with subterranean structures on a future occasion.

If my readers have not yet done so I would bid them examine buds, especially just as they begin to burst in spring, and it will be seen that they are by no means all alike. Thus in the Horse Chestnut, the Currant, and the Ash the bud-scales are simply the basal part of the leaf-stalk, for as one in dissecting it passes from the short exterior scales to the interior ones, they gradually elongate and produce rudimentary blades at the summit, so that a perfect transition from scale to a true leaf is revealed.

If, however, the buds of the Lime, Elm, Oak, or Beech be examined, the bud-scales will be found to be stipules, and not leaf-stalks at all. The Lilac illustrates the rare case of the blade alone acting as the bud protector.

Then the ways in which the little undeveloped leaves, or leaflets in the case of a compound leaf, are folded up in the bud are very curious. The "vernation," as it is called, a word meaning "spring quarters," is generally conduplicate—that is to say, the two halves are folded together like a sheet of notepaper, the upper surface being within. We shall see the significance of this when I come to speak of the methods of unfolding in spring. Various names have been given to the different kinds of vernation, but the point to be noticed is that the object gained is to pack the leaves tightly within the bud-scales, and to protect them from frost when they escape from the bud. The first is acquired in several cases by crumpling the blades. This is well seen in the Vine, the Beech, and the Currant. In many cases the edges are inrolled; the edges are easily injured by frost, so that we can understand the use of this arrangement. It is seen in Violets, the Apple, Elder, &c.

We will now consider quite another form of winter buds. In the arctic and in the higher alpine regions few, if any, annuals of lower latitudes and altitudes occur, for such as *Poa annua* become perennials under the different climatic conditions there prevailing. But besides that the flowers very often fail to be formed in some plants, little bulbils or corms with a vegetative bud at their



OAK FENCE AND OLD APPLE TREES, WITH ROSES COMMENCING TO CLOTHE THEM.

summits taking their place. Thus, there is a Saxifrage, a genus of plants very common on our own mountains, *Saxifraga nivalis*, which produces little rosettes of leaves in lieu of flowers. These are readily separated, and when lying on the ground strike root, and grow up to new plants in the following season. Similarly, *Saxifraga cernua* produces bulbils, while *Polygonum viviparum* bears corms.

It is a common thing to see Grasses on the Alps with minute green leaves proceeding from the spikelets. These, too, may be detached, or the extra weight may cause the entire panicle to lie on the ground, when the numerous little shoots would strike root.

Now let us take a brief glance at hibernating parts of aquatic plants. Our smallest flowering plant, the Duck-weed, has no distinction between stem and leaf, so botanists call the green structure a "thallus," like that of a Lichen or Sea-weed. It covers our ponds in summer, each little thallus giving rise to another from its side. The cells contain air so that it floats, but in autumn it stores up starch instead of air, and now subsides to the bottom of the water. There it rests till spring time, when it begins to use up its starch for growth, air enters the cells, and the thallus floats again.

The Frog-bit floats on the surface also, but produces runners like a Strawberry, and the little plants formed at the nodes become detached, and they, too, sink to the bottom and hibernate there till spring.

The Bladder-wort (well known for its little traps to catch water creatures, so well described by Darwin) has no roots, the leaves are finely dissected and spread out, but in autumn they remain clustered over the apex, forming a little green ball.

The parent plant decays, while these balls become detached and sink to the bottom, to rise again in the following spring and grow into new floating, rootless plants.

Such are a few only of Nature's methods of preserving, if not the life of the individual, that of one or more successors during the period of rest or of hibernation.

GEORGE HENSLOW.

A CONVERTED FARMYARD AND CLIMBING ROSES.

WHEN altering an old farmhouse, and turning its surroundings into gardens or pleasure grounds, I think a great mistake is often made in removing too many of the often unsightly

farm buildings. It is wonderful what can be done, how picturesque they can be made, and what a beautiful garden can be obtained in a very few years by judiciously planting suitable and strong-growing climbing Roses and other hardy climbers. The framework of many old farm buildings is very substantial, and would last for generations. The old building, an illustration of which is given, was a short time ago a great eyesore—ugly stone and brick and tarred weather-boards. I had the boards covered with rustic Larch poles sawn in half, the roof thatched with Heath, and a porch erected over the door made of Oak cord-wood. Irish Ivies were planted at the sides, and at the back and front Honeysuckle, Roses, Ampelopsis, Clematis montana and flammula, and the following strong-growing Roses: Gloire de Dijon, the Ayrshires, Reine Marie Henriette, and Rêve d'Or. The building is now beautiful instead of ugly, and also comes in very useful as a potting-shed and tool-house. Should there be an old orchard with ancient non-bearing trees, it is a good plan, instead of doing away with them altogether, to use the old trunks as supports for climbing Roses. The boughs should be shortened and the Roses allowed to climb up and fall over the sprays in as natural a way as possible. There is something about old Apple trees that Roses seem to like, and the combination has in a very short time a charming effect. I had some Roses planted in this way two years ago which have mounted to a height of 15 feet to 20 feet.

My experience is that if you wish to be successful with climbing Roses you must let them grow freely and pretty much as they like, using the pruning-knife but very little. Train them carefully, and be sure and give them a plentiful supply of farmyard manure water during the spring and summer months. In giving them manure water take pains and make certain that it reaches the roots. I find a good plan is to first carefully remove the surface soil round all the trees, making a hollow holding about 2 gallons. If the ground is very dry I go all round and give them clear water first

then go back to the first tree and give them the manure, and when I have finished with that some more clear water. The same treatment applies to many of the H.P. Roses if you want a really charming and showy Rose garden and an abundance of bloom all the summer and autumn. It is a great mistake to prune closely. I have dwarf bush H.P. Roses that are quite twelve years old; they are a mass of blossom every year. I prune them to bushes 3 feet to 4 feet high. New growth every year is only a matter of feeding during the spring and summer. The free growth system, too, has another great advantage—you not only get many more Roses, but they are seen in the distance, and are not hidden by shrubs and other plants.

E. TROWER.

TREES AND SHRUBS.

THE BOX IN BRITAIN.

IN conversation last year with Graf zu Solms-Laubach he made the extremely interesting suggestion that the Box and Yew trees of Box Hill might probably be the remains of a native forest which originally clothed the North Downs. Among his arguments against their being the remains of a plantation, he urged the great unlikelihood of such a soil as that of Box Hill being planted at all, and the still greater improbability of anyone hitting upon such a combination as Box and Yew for the purpose. He urged that, since it is probably the only thing of its kind in the world, careful enquiry should be made into its history.

I have been able to make a few superficial enquiries to the following effect, and it will be seen that the subject is worth pursuing by someone with leisure and other advantages, which I do not possess. Mr. Warner, of the Manuscripts Department, has been good enough to search Domesday Book for me, but without result. He makes the suggestion that the old Court Rolls of Dorking be searched—if they can be found. He further sent me the following extract from Manning and Bray's "History of Surrey," vol. i., page 560 (1804):—

"The Downs, which rise to a considerable height from the opposite bank of the Mole, are finely chequered with Yew and Box trees of great antiquity, and which form a scene no less venerable than pleasing. Of the latter of these, in particular, there was formerly such abundance that that part of the Downs which is contiguous to the stream, and within the precincts of this Manor, hath always been known by the name of Box Hill, from which also is an extensive prospect into the neighbouring counties. Various have been the disquisitions concerning the antiquity of this plantation; which, however, for aught that has hitherto appeared to the contrary, may have been coeval with the soil. Here was formerly also a Warren with its Lodge; in a lease of which from Sir Matthew Brown to Thomas Constable, dated 25 August 1602, the Tenant covenants to use his best endeavours for preserving the Yew, Box, and all other trees growing thereupon; as also to deliver, half-yearly, an account of what hath been sold, to whom and at what prices; and in an

account rendered to Ambrose his son by his Guardian, of the rents and profits for one year to Michaelmas 1608, the receipt for Box trees cut down upon the Sheep Walk on the Hill, is £50. I have seen also an account of the Manor, taken in 1712, in which it is supposed that as much had been cut down within a few years before as amounted to £3,000."

I forwarded this extract to Graf zu Solms-Laubach, who replied in an interesting letter, of which the following is a translation:—

"Many thanks for your information, which I have received with the greatest interest. It is really sufficient in itself to clear up the subject, although it would be interesting to find still older proofs. If, however, Boxwood was sold in 1608

Brittany: *Hymenophyllum tunbridgense*, *Isocetes Hystrix* to Guernsey; *Lagurus ovata*, *Erica vagans*, &c. Of these the greater part of the Mediterranean things are, of course, not palæotropical, but *Sticta aurata* and *Hymenophyllum* may be reckoned in the category. Such a work would be therefore well worth doing, and I must say I am surprised that no one, knowing the wonderful woods of Box Hill and their flora, which must, of course, be taken into account, should have taken up the subject. It is evident that on your side of the Channel you hardly realise the botanical marvels you possess in your woods."

Looking further quite casually into Manning and Bray's "History," I could not help being struck by the occurrence of old personal names, such as Peter de Boxstead (page 90), Nicholas Boxwell (page 341), William Box (vol. ii., page 584), and at vol. ii., page 656, a "Mr. Boxall sold 500 Yews at three guineas each." These names are strictly local, and Boxley in Kent and Boxgrave in Sussex occur to me as place names as I write.

I find in Messrs. Hanbury and Marshall's "Flora of Kent," page 310, under Buxus:—

"Boxley—Ray in Camden 262. Mr. Reeves doubted its being truly indigenous here; but the fact of the village being apparently named after it is a strong argument in favour of its genuine wildness. It seems to have been more plentiful there formerly than at the present time."

First Record 1695. "Buxus I find in the notes of my learned friend, Mr. John Aubrey, that at Boxley (in Kent) there be woods of them.—Ray l. c."

In Mr. Druce's "Flora of Berkshire," page 439, I find the following note under Buxus:—

"The last remains of Boxgrove in Sulham parish near Reading, whence the country probably took its name, were grubbed up about forty years ago."—Gough's Camden, 155, 1789.

"Professor C. C. Babington, January 28, 1853, sent a note to the Phytologist Club as follows:—'Mr. Watson, in his "Cybele," ii., 366, appears very much inclined to consider the Box tree as not originally a native of England. The following extract from the beginning of Asser's "Life of King Alfred" appears to show that it was plentiful in Berkshire 1,000 years since. His words are:—'Berrocsire; quæ paga taliter vocatur a 'berroc' sylvæ ubi buxus abundantissime nascitur.' See Phyt., iv. (1853), 873."

"In the edition of Camden, published in 1610, it states that 'Asterius Menevensis deriveth the name [of the county] from a certain wood called Berroc, where grew good store of Box.'

"At Buckland there are some very fine specimens of the Box, and it is also well grown at Besilsleigh, Kingston Bagpuze, and at Park Place, where Mr. Stanton tells me it reproduces itself from seeds in the woods. In Mavor's 'Agr. Berks' it is said to grow near Wallingford."

"The Box is a possible native of Surrey at Box Hill, and on the Chilterns near Velvet Lawn and near Dunstable, Bucks. In the other bordering counties it is certainly introduced."

It is certainly a prevalent idea that as Buckinghamshire is the country of the Beech, so Berkshire is the country of the Berroc or Box, but I understand that there may be philological objections to it. If true, it would most strikingly confirm Graf zu Solms-Laubach's most ingenious idea. The matter is certainly worth prosecuting, and I print



THATCHED FARM BUILDING SMOTHERED WITH ROSES.

for £50, it is clear that the woods must have been in existence in 1500, at which time there can hardly have been intentional planting of woods in England [?].

"It is much to be desired that either you or some younger London botanist should write a paper on the woods of Dorking, with a map showing the extent and distribution of the existing tracts of Box, for one does not know how far these stretch westwards. It would be a subject of the greatest interest in plant geography, and one which can only be worked out by an Englishman who can go over the ground on foot and talk to the various landowners. The general distribution of the plant, which in Europe is, broadly speaking, Mediterranean, should be noticed. I no longer doubt that Buxus belongs to the palæotropical forms, which have outlived the ice age, and have once more penetrated to the north-west—as *Sticta aurata* to

these few notes in the hope of inciting some young botanist to so attractive a task.

G. R. M. MURRAY.

It has hitherto been considered doubtful whether the Box is indigenous in Britain—some botanists excluding it, and others admitting it, more or less doubtfully, as a native. Watson does not mention it in "Topographical Botany," and in the "Cybele" calls it a "denizen." Syme ("English Botany," ed. 3, viii. 94) considers that there is "some likelihood of its being truly native on Box Hill, Surrey," the only other counties in which there is "any possibility of its being a genuine native" being Kent, Bucks, and Gloucester. My attention being drawn to the subject by a reference in a letter from Sir J. D. Hooker as to its occurrence in the last-named county, I have endeavoured, with the kind assistance of Mr. G. H. Wollaston and Mr. J. W. White, to throw some light on the question.

The Box wood to which Sir Joseph referred is situated between Wootton-under-Edge and Alderley, clothing the hillside for a considerable distance. Although the shrub flourishes luxuriantly and produces abundance of seedlings in the wood itself, it does not appear to have extended into the neighbouring wooded hillsides and valleys. There is nothing here to indicate whether it is native or not, except the presence of some Larches, which, being introduced trees, would perhaps suggest a similar origin for the Box. It is shown as a wood both in the 1-inch and 6-inch ordnance maps, the fact that it consists of Box not being in any way indicated, but about three miles away, nearly due east, in a valley which extends in a northeasterly direction from Alderley, there is marked the name of Boxwell, suggesting that some traces of the Box might be found there. On visiting the locality this proved to be the case. Another large wood, consisting exclusively of Box, occupies a similar position to that at Wootton, and extends for half a mile or more on the steep side of the valley. It was afterwards found that this is marked as "The Box Wood" in an old ordnance map published about fifty years ago, as well as in the 6-inch map, but this is omitted in the recent 1-inch map, in which only the names "Boxwell Court" and "Boxwell Farm" are to be found.

The name thus being evidently connected with the wood, a search was made to discover, if possible, how long it had been in use. The following interesting account was found in the "History of the County of Gloucester," by the Rev. Thomas Rudge, published at Gloucester in the year 1803: "Boxwell, anciently Boxewelle. The name is derived from a Box wood of about sixteen acres, within a warren of forty acres, from which rises a plentiful spring. This is the most considerable wood of the kind in England, excepting Box Hill in Surrey, and from the name, which has now been on record for more than seven centuries, it must have been of long standing."

This appears to leave no doubt that the Box is indigenous in this valley, and there can therefore be no reason why it should not also be a native of the woods at Wootton and Box Hill. Sir J. D. Hooker, to whom I have communicated the result of this investigation, tells me that it leaves no

doubt in his mind that the plant is truly wild in these localities, and adds that Bentham, whose knowledge of the conditions under which British plants are found on the Continent was profound, regarded it as a native.—CEDRIC BUCKNALL, in *The Journal of Botany*.

LONICERA FRAGRANTISSIMA.

WHILE all of us who are lovers of outdoor flowers naturally look forward to the coming of spring, with its bountiful display of blossom and bud, it would be folly of us to be indifferent to the claims of plants which will give us flowers in the garden at the season we call—perhaps erroneously—mid-winter. In some localities, it may be, these cannot

be supported by the pillar against which this Honey-suckle grows. Yet its flowers are now most grateful, with their chaste colouring and their delicious fragrance, devoid of the surfeit of scent given by some of the genus.

The flowers are of a delicate white, just tinged with enough of pink or rose when newly opened to give them additional beauty in our eyes. They are about an inch across, and are so placed that they get a considerable amount of shelter from cold winds from the old leaves. Not that they are always sufficiently protected from the hazards of the seasons, as some years the flowers have been destroyed when open by severe weather. Its evergreen habit is a considerable recommendation to many, as it can thus be employed where a deciduous plant would be less desirable. It eventually grows to some 6 feet in height, though this is exceeded in some favoured localities. When plentiful enough a few flowered branches of *Lonicera fragrantissima* introduced into a room would please by their fragrance, which has not the excessive honeylike odour exhaled by some of the other Honeysuckles. Its ally, *L. Standishi*, is very like it. It has been well said that this Chinese shrub is "one of the best fragrant winter-flowering plants cultivated."

S. ARNOTT.

AN ARTIST'S NOTE-BOOK.

BROWALLIAS.

FOR many years *Browallia elata* (known sometimes as the Forget-me-Not of the Andes) has been grown as a greenhouse annual, but in effectiveness it is now surpassed by the newer *B. speciosa major*, a



BROWALLIA SPECIOSA MAJOR.

(From a drawing by Miss Maud West.)

be expected to be so accommodating, but in mild districts they are worth a trial. Such a plant is *Lonicera fragrantissima*, which has come into flower with me this season on December 17, rather before its usual time, although it would have been earlier still had we not had such deluges of rain and sunless skies along with a mild winter. It would also have been a little sooner had it had a higher wall between it and the north, instead of a low one surmounted by a trellis, which

native of Colombia, which is more shrubby in character than the older kind, being in fact what is commonly spoken of as a sub-shrub. It can be readily propagated by cuttings, while seed often ripens and germinates quickly. We have heard a great deal of its beauty in a state of nature, and as seed is easily obtainable it is often sent home by collectors in that part of the world. This *Browallia* forms a freely branched bushy plant if stopped regularly during its early stages. The flowers, which are freely borne, have a tube about an inch long, with a spreading mouth, divided into five segments. The colour is a rich violet-blue, with a white throat, that is to say, when first expanded, as they become paler with age, and singularly enough they also increase in size. To secure extra bushy plants in potting off the cuttings three may be put around the edge of a small pot, and shifted on when necessary without disturbing them. A mixture of loam, leaf-mould, well decayed manure, and some sand forms a very suitable compost for this *Browallia*, and as the pots get full of roots a little liquid manure occasionally is of great service, tending as it does to prolong the flowering period, which is by no means limited to any particular season of the year, though it is, as a rule, during the autumn and winter that the bright coloured flowers are most appreciated. At this period the plants need the temperature of an intermediate house to develop the flowers properly. The *Browallia*, though so pretty as a pot plant, is of little use for cut blooms, and this is perhaps the reason that it is not more grown.

"IN A SMALL WAY."

NOTES FROM AN OBLONG GARDEN.—XVII.

AT last the oblong has arrived at that consummation which has been impending for some time past, but which is none the less something of a shock now that it is accomplished, finally and definitely, repletion. All the extra beds that could be made have been made, and the disposal of a delightful batch of plants, the last of three autumnal consignments, has reduced the available space to that interesting dimension known, I believe, to people of education as the *n*th. It might be possible to insert a *Crocus* or two, or half-a-dozen *Squills*, between some of the perennials, but any larger operation would necessitate the removal of some already established occupants. I must own that all the laws of garden beauty as laid down for us by the highest authorities have been violated in respect of my later acquisitions, and that where I had no room for three plants I put in one, and thus committed the crime of "spot," but what is the owner of a 100 foot by 50 foot oblong to do when possessed of an amassing disposition, a big bump of acquisition, and the inelastic space mentioned? Perhaps it may be counted to me for an excuse that I have at least tried to keep families together.

I wanted a variety of *Campanulas*, both for comparison and because, being by compulsion a stay-at-home individual, I saw no other opportunity for becoming better acquainted with these really "fascinating flowers," and only one bed, a somewhat raised, new, crescent-shaped affair, under the partial shade of an Apple tree, was available, consequently the plants here are all singles; but, at any rate, they are all *Campanulas*. *C. Van Houttei*, planted about a month ago, is indulging in a crop of presumably third or fourth bloom already. I like its long, bright blue, downward-looking bells very much. It is more straight and mottled than *C. medium* (the Canterbury

Bell), about the same size, but narrower mouthed and more pointed of segment; bluer, too, than the blue form of the biennial. My Canterbury Bells are still blooming, by the way, and have been ever since late July. We resolutely refused to let them seed, and they have gone on unweariedly flowering in consequence. Also, I have *Pansies* every whit as big and fine as their first beginnings of the gorgeous Trimardean strain. They, too, have given me work all through the season at dispothing, but rewarded it richly. These are the compensations of the small way, wherein small operations like these are interesting and there is time for them.

To return to the *Campanula* bed, which in happier, *e.g.*, larger, circumstances would be the Bell-flower garden; it holds about twenty divers kinds. Of these *C. pulla* is the smallest, *C. macrantha* the largest, and *C. Burghalti* the most charming to my eye in colour, having more pink and less blue in its mauve or lilac than most; others in possession are *C. Hendersoni*, *C. Hosti alba*, *C. persicifolia* (blue and white), *C. turbinata*, *C. carpatia* (blue and white, with a reserve in pots in case of disaster), *C. nobilis alba*, *C. garganica*, *C. alliariefolia*, *C. nobilis*, and *C. rhomboidea*. Will some one who grows the rest tell me of any other varieties that are irresistible, and the first vacancy shall invite them!

Already the first spikes of the *Bride Gladiolus* are rising; they must be mulched with cocoa fibre. Last year they had a straw blanket, and very untidy it looked; this year they are established and presumably hardier. I am so disgusted with the clumps of *Watsonias* and *Trigridias*, which were stout and sturdy of leaf but made no attempt to flower, that I shall let them also take their chance in the open air under a thick fibre *duvet*. The *Fuchsias* are standing in their pots, having been disinterred from the bed in which they were plunged to await the wholesome check of a few chill nights before going indoors to occupy a spare empty room. They are too large now for their old quarters under the stage in the small greenhouse. What roots they have made! We thought it would be less trouble to plunge their pots than to plant them out, but it came to the same thing in the end, for they had to be repotted and have the long tresses, too good to cut away, tucked in safely. I wish them to form specimens, as they are all good sorts, *Phenomenals*, &c., so they could not be drastically served.

The lawn, which suffered terribly in the summer from the ill-usage bestowed upon it by the dogs of the family—or, rather, the dogs who form the family, since they are by far its largest item—has been partly relaid, well rolled, dressed with basic slag, and generally comforted. Personally, I am of opinion that these little minnikin lawns give a great deal more trouble than they are worth—what with incessant weeding and the perpetual reconstruction which seems to be incumbent on their welfare—but Adam regards grass with a favourable eye, as costing little in proportion to the remainder of the garden, and accommodating the shady and delectable seat whereon he loves, all through the summer, to—meditate (let us have things put as nicely as possible; the soft word costeth nothing), and so the lawn, such as it is, has been wired off, and the merry sport of drawing imaginary badgers and digging out dream foxes from around the Apple trunks is at an end. All the dogs can jump the wire; even the terrible two months' puppy, destructive as a tornado, can climb it, but they, for some inscrutable reason, never attempt to do so unless they see us in the

garden, when they at once join us as if in pity for our dogless estate. On these occasions, however, there is no digging, and the general aspect of the oblong is, needless to say, all the better for the want of the lordly excavations that it used to boast.

The Apples have been picked, for they were tumbling and bruising themselves, and the lack of their midday smiles bedulls the trees and gives one a premonitory shiver of cheerless winter. Last February I persuaded a *Mistletoe* berry to begin growing on the trunk of the most worthless of the Apple trees. It went so far as to form a tiny loop of stiff stalk, fixed at both extremities, in the bark, but gets no further. The stalk alone is green and apparently alive, so that we can but hope that this is the ordinary method of *Mistletoe* inception, useful as an exercise of the grace of patience.

I think I have praised *Stokesia cyanea* before, but it deserves another word. It is still flowering away and looks as fresh as in June, while the fringed, filamentous, bright lilac-blue, Aster-shaped flower is a gay spot of colour. It is neat and low too, and spreads very slowly, a charming front-of-the-border plant, and no favourite with snails or slugs.

Little graveyard shrubs are beginning to be set up in their little smug ugliness in people's window-boxes and bulb-beds all about. I have a peculiar distaste for these dwarfish *Eunymuses*, *Thujas*, and so on, though I know they are general favourites. Their presence seems to me like putting mittens and a Shetland veil on the garden and making it play at enjoying itself out of doors while it only wants to be tucked up and go gracefully and in peace to sleep. A bare brown bed, to my taste, whets the appetite for spring beauties better than those simulacra of growth and greenness out of season.

M. L. W.

HEATING AND VENTILATING GLASS HOUSES.

MR. A. DONALD MACKENZIE, of the firm of Messrs. Mackenzie and Moncur, Limited, Horticultural Builders and Engineers, Edinburgh, gave the following lecture on this subject before the Royal Horticultural Society at the meeting at the Drill Hall, Westminster, on December 4. To horticulturists in the British Isles that are so remarkable for their extremely variable temperatures, this subject is a most important one, and thoroughly deserves the close attention of fruit and plant growers. Since the time when brick flues were the only means of heating our glass houses great improvements have been made, and the above system quite superseded by that of hot-water pipes. Mr. Mackenzie, in speaking of the flow of water, said that although the expansion of water takes place in all directions, if the fluid is in a tank it naturally rises more easily in an upward direction, and so brings about the flow. On its return through the pipes it re-enters the boiler at the bottom. The lecturer advised the most suitable size of hot-water pipes as 4 inches in diameter. A most important point before erecting any heating apparatus is to make sure of the number of cubic feet to be heated. For all ordinary purposes the following figures were given as having been found satisfactory: For every 35 cubic feet of space provide 1 foot of 4-inch piping, or for a hothouse this would be necessary to every 25 cubic feet. Early vineries, where a regular temperature has to be maintained, sometimes during the coldest weather it is advisable to have 1 foot of piping to every 12 or 15 cubic feet. In a span-roofed vinery eight rows of pipes would be required to ensure this. It is also an excellent thing in lofty houses or forcing houses to have a small pipe running around the roof so as to ensure a regular temperature throughout.

Mr. Mackenzie remarked that the old saddle boiler is still one of the most satisfactory, notwithstanding the various more recent ones introduced; if the length of piping to be supplied were, however, longer than 700 feet he would recommend the terminal saddle, of which there are several different good types. To satisfactorily heat a hothouse the boiler ought to be kept going for at least eight hours without attention. An illustration of an American boiler, described by Mr. Mackenzie as one that could be depended upon, was given; it is of cast-iron, and made in sections. The lecturer then referred to the difficulty often experienced in obtaining a steady circulation of hot water from a boiler when, as is not infrequently the case, the houses are scattered, and, perhaps, at different levels. A careful regulation of the valves was mentioned as the way to overcome or minimise this inconvenience.

Dealing with the second subject of his lecture, that of ventilation, Mr. Mackenzie referred to the great value of bottom ventilators, so placed that when air is admitted it becomes warmed by contact with the hot-water pipes before reaching the plants. Such ventilators are absolutely essential during the winter time. For the admittance of air in warmer weather there should be top ventilators fixed in the roof. The method of working should be simple, and one that would allow of fine regulation.

Mr. H. J. Pearson, who was in the chair, made a few remarks at the conclusion of the lecture, which was rendered highly interesting by means of various diagrams, upon the necessity of placing orders in the hands of good firms, thus ensuring

the best material and workmanship. A cordial vote of thanks for this excellent and interesting lecture was afterwards passed to Mr. Mackenzie.

BOOKS.

Journal of the Royal Agricultural Society of England.—Part 4 of volume xi. is before us, being the sixty-first volume issued since the first publication of this journal in 1839. It contains much interesting information to those engaged in horticulture and agriculture. The articles comprise "The Woburn Pot Culture Station," by J. Augustus Voelcker, being an account of agricultural experiments conducted by growing plants on a small scale in pots instead of on plots of a field, a system that originated in Germany. "The British Egg Supply" is treated by Edward Brown in an exhaustive manner. This paper, which we advise all interested to peruse, concludes thus:—"Poultry keepers must aim at securing a profit of at least 5s. per hen per annum, and, being attained, this industry will become a more appreciable factor to the British agriculturist." "Asparagus Culture" is dealt with by John J. T. Norfolk, and the agricultural implements at the Paris International Exhibition, 1900, are described by F. S. Courtney. The annual report of the consulting botanist says that during the past year 255 inquiries have been answered on behalf of the members of the society. Of these, fifty-one dealt with diseases of plants, ten with plants suspected of causing injury to stock, thirty-

two with weeds, seven with suitable weeds for laying down temporary or permanent pasture, two with the composition of hay, and 153 with the purity and germination of seeds. Messrs. Spottiswoode and Co., Limited, New Street Square, E.C. Price 3s. 6d.

Vinton's Agricultural Almanac.

This, the forty-sixth annual number, contains much matter of interest to landowners and farmers. A portrait of Earl Cawdor, President of the Royal Agricultural Society of England, appears, and several practical articles dealing with questions of the land, amongst which may be mentioned "How to Check the Rural Exodus," by A. T. Matthews; "A Source of Injury to Home-grown Timber," by Charles E. Curtis; "Gains and Losses in the Market Garden," by W. W. Glenny. A mass of useful information as to agricultural societies, statistics, markets, &c., is to be found in the latter portion of this work. Vinton and Co., Limited, Ludgate Circus, E.C. Price 6d.

CRAGSIDE, NORTHUMBERLAND.

CRAGSIDE, the residence of the late Lord Armstrong, of which we are able to give an illustration, has a position and surroundings of exceptional natural beauty. The house, as seen from the Downs, appears nestled amidst the magnificent Pine woods which clothe the hills beyond and the collection of choicer Conifers and other trees on the slopes below.



CRAGSIDE, NORTHUMBERLAND, FROM THE DOWNS, RESIDENCE OF THE LATE LORD ARMSTRONG.



RAISED BEDS OF VIOLETS AT STRATHFIELDSAYE.

As will be seen from the illustration, Conifers are particularly fine at Craggside, as, indeed, are many hardy trees and shrubs, notably the Rhododendrons and Azaleas; these when in full flower produce a magnificent effect in early summer, being planted on the hillside, and in the autumn the result is hardly less beautiful by reason of the rich and varied tints of the Azalea foliage.

RAISED VIOLET BEDS.

AN idea that so far as I know is original, and one that might perhaps in many cases prove to be worthy of putting into practice, is exemplified in the illustration given of the raised Violet beds in the gardens at Strathfieldsaye, the residence of the Duke of Wellington. It is stated that these were so arranged that the Violets might be picked without stooping to the ground. To others who find the gathering of Violets to be an inconvenient and somewhat tiring pleasure, the method of placing the plants in raised beds may prove to be worthy of consideration. That Violets can be successfully grown in this manner is proved by the satisfactory results obtained at Strathfieldsaye, I should imagine. I have not cultivated them thus, so do not speak from experience, but they would enjoy a considerable advantage over those plants in the open ground, particularly in cold, wet seasons. If proper drainage were provided, and this is absolutely essential, the soil around their roots would remain in a far more genial condition than could possibly be the case on the ground surface. In case of severe frost, protection is also easily afforded when the beds are raised. There are, no doubt, many who will say that such an arrangement is totally unnecessary, as Violets can be grown sufficiently well without it. It may, however, be recommended, particularly to those who find that the pleasure naturally associated with the gathering of these delightful flowers is somewhat reduced by the tiring position at present inseparable from this operation. T. F. W.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

CONCERNING LAWNS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The unprecedented fact of our lawns being mown on the shortest day of the year, leads me to venture a few remarks about lawns and the attention which they require. The commonest remark made by my visitors is "How beautiful your lawns are! How lucky you are to keep them so green!" There is really no luck at all in the matter. If our lawns are good, their goodness is entirely due to constant care and attention. Every winter about this time, should the weather be open, they receive a liberal dressing of burnt ashes, soot, and Peruvian guano. This mixture is put on them on a dry day, and immediately brushed in with a broom. In April every Daisy, Buttercup, and weed of every kind is carefully extracted with a kitchen fork; in July they are copiously watered with a solution of sulphate of ammonia, and receive a second careful weeding. With this treatment, supplemented by watering in dry weather, they are always green and fresh, and entirely free from weeds. Should they show a tendency to become brown in any particular place, a note is made of it, and in November the turf is rolled back, the soil removed to a depth of 18 inches, and fresh soil put in its place. This saves a great deal of labour in watering during summer droughts. I do not defend my action in having the lawns mown on December 21, as had hard frost immediately ensued the grass might have suffered considerably; but as it is the result has been charming, and sufficient new growth has now been made to prevent any root damage, no matter how severe the weather may be hereafter. There is no greater garden beauty than a green, well-kept lawn, and this can only be had by constant care and labour.

Bromsgrove.

H. M.

PEAR PRESIDENT BARABE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Having been fortunate enough to try samples of this first-class late dessert Pear as grown by Mr.

Allan, I am fully in accord with your verdict of its qualities and appearance; indeed, I consider that as grown by Mr. Allan it is the finest and best Pear brought prominently before the public from obscurity in my recollection. We have sufficient midseason Pears of good quality, but one of such high quality, ripening after the end of November and keeping so well, is a treasure indeed, and it is to be hoped that it will in the future be as widely planted as its merits warrant. I think Mr. Allan attributes the enhanced size of the Pear last year to the influence of a stock on which he has not previously had scions in bearing, and no doubt this fact will not be lost sight of when working up stock for distribution, the finding of a suitable, or the best, stock on which to double-graft many of our best Pears being half the battle towards successful culture. I think I may safely say that this intervening stock is that of a good Pear, which grows well on all soils that will grow Pears at all, for I have grown really good exhibition fruit of it on a very sandy and poor soil. J. C. TALLACK.

HARDY FRUIT CULTURE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I read with great interest the article on "Hardy Fruit Culture" in your issue of December 29, page 457. The suggestion made by Mr. Owen Thomas that the Board of Agriculture might with advantage take the matter in hand is a good one. There would be no lack of practical fruit growers who would be glad to give evidence before a commission of that board, when matters such as land tenure, the difficulty of obtaining suitable sites for orchards, the high rents asked for such by agents of landowners, and the proverbial dish of cold water thrown over those who propose to commence fruit growing might be ventilated. I feel convinced the evidence got before a commission would greatly alter the opinion of those gentlemen who are interested in the culture of hardy fruit, and who are at a loss to understand the apathy and neglect shown by the rural population in this matter. There are many practical fruit growers in this country who would be glad to become tenants of a fruit farm if a little kindly consideration were shown them, such as suitable sites offered at a reasonable price. Surely this should not be made a matter of £ s. d. altogether, the better cultivation of the land ought to be a matter of common interest between landowner and tenant. Affairs in South Africa of late have shown us the wisdom of rearing and promoting a healthy and intelligent peasantry on the land. Therefore let us hope that the few suggestions made by your correspondent may not be in vain, but that they may lead to something practical being done for fruit growing generally. J. CHARLTON.

The Gardens, Farnley Hill, Corbridge-on-Tyne.

CHRISTMAS FLOWERS IN KENT.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I should be glad if you could add the three undermentioned flowers to my Christmas day list, making forty species in all. They were in bloom then, but unfortunately were omitted:—*Leycesteria formosa*, *Berberis japonica*, and *Veronica prostrata*. S. G. R.

Yalding, Kent.

THUNBERGIA FRAGRANS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—A recent reference to my note on *Thunbergia fragrans* which appeared not long since has led me to look more fully into the matter, and I find in "Nicholson's Dictionary of Gardening" mention of two forms of this species. The first, that is the typical *T. fragrans*, is described as having pure white fragrant blossoms, a native of India, intro-

duced in 1796. This was figured in Andrews' "Botanists' Repository," 123; *Floral Magazine*, 325; and Loddiges' "Botanical Cabinet," 1913. The second to mention is *Thunbergia fragrans* levis, described as not fragrant. This is said to have been figured in the *Botanical Magazine*, tab 1881, under the name of *T. fragrans*. From this it would appear that if horticulturists are in error botanists also have tumbled into the same pit. H. P.

THE MILD WINTER.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It may be of interest to you to know that on January 1 I gathered flowers from the following thirty-two plants out of doors in my garden here. The aspect is due north, 500 feet above sea-level:

Gaillardia	Marigold
Marguerite	Pansy
Lavender	Salvia splendens
Yellow Jasmine	Laurustinus
Carnations	Escallonia
Abelia rupestris	Japanese Berberis
Roses (various)	Andromeda
Campanula	Mignonette
Periwinkle	Godetia
Primroses (of sorts)	Silene
Double-flowered Gorse	Daisies (various)
Pyrethrum	Saponaria
Hypericum moserianum	Sinaria
Hydrangea	Sweet Sultan
Hellebores (various)	Violets
Wallflower	Montheletias

M. SCOTT WILLIAMS.

Wooland House, near Blandford, Dorset.

CASSIA CORYMBOSA IN THE OPEN.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—("G. W.") writes on page 363 of this striking plant flowering against a wall in South Devon. In the month of August a fine specimen in this neighbourhood, possibly the one he alludes to, had covered some 200 square feet of wall with a blaze of golden yellow. Through September the display remained undiminished, and even in the second week of December the wall was not entirely bereft of flowers. Another yellow-flowered shrub that does well in the south-west is *Sophora tetraptera microphylla*. This, however, is a spring bloomer, often flowering as early as the middle of April. S. W. F.

SALVIA AZUREA GRANDIFLORA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In a note on this handsome plant (page 411) the writer states that it is not hardy in this country. As a general rule this statement is doubtless correct, but in the south-west, both the subject of this note, and the still more striking *S. patens*, may be considered practically hardy, since in sheltered gardens, where the soil is not of a very retentive nature, plants left in the ground through the winter rarely fail to break into growth in the spring. Even in the unusually severe winter of 1894-95, when the mercury in the grass thermometer fell below freezing point on sixty-four nights during the first three months of the latter year, plants of both these *Salvias* were unharmed in a certain garden that I am acquainted with. *S. splendens* and *S. coccinea* form large bushes some feet in height, and are rarely permanently injured by frost. Both of the latter species are still bearing flowers. S. W. F.

ROSES FOR A SOUTH WALL.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—On page 443 Mr. Walter Smyth gives the names of some Roses which he has planted against a south wall, and the selection is a very good one. I am glad he has included *Souvenir de la Malmaison*, as I consider it one of the most useful Roses in cultivation, and certainly the best autumn bloomer, though one may look through a good many collections of Roses and not find it. Mr. Smyth has also planted *Kaiserin Augusta Victoria*, and I feel confident he will be pleased with it. I saw it in good condition in two gardens last autumn, and was informed that it possesses a good constitution,

and flowers freely and continuously. If space permits Mr. Smyth should also plant *Devoniensis* and *Climbing Perle des Jardins*. The former, though an old Rose, surpasses most of the creamy-white and flesh-coloured Teas, is a very vigorous grower, and quite at home on a south wall. *Perle des Jardins*, I think, the most reliable yellow climbing Rose we have. In some seasons the flowers are quite golden. C.

GLOBE ARTICHOKE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Mr. Wythes' article on this increasingly popular vegetable (page 452) is opportune, and will, I trust, induce many who have hitherto neglected it to give it better culture. As Mr. Wythes points out, plants raised from seed are very uncertain, and those who wish the plants to yield in the shortest possible time should plant offsets. In many cases the plants are left in one place too long; consequently the heads are small and poor in quality. I advise renewing the stools every fourth year at least, especially where the soil is light or shallow, then if well mulched and watered with farmyard manure they will produce large succulent heads in plenty. The plants are often weakened by leaving the heads on them till they flower. If not wanted they should be cut off and thrown away before they materially weaken the plants. Artichokes, being gross feeders, should be planted in rich ground, and well watered several times during summer with liquid manure. If extra fine artichokes

are wanted, a good-sized hole should be made for each plant and filled with rich soil. Where ground is plentiful I strongly advise potting a number of strong offsets, say, early in October, plunging them in ashes in a frame, and planting them out in April. These will yield good-sized heads in August and relieve the old plants, which should not be allowed to produce any more heads. It is a good plan to go over the stools in spring and thin out the offsets. Plants raised from seed should be proved before being planted in their permanent position. C.

MISTLETOE AND MISSEL THRUSH.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I fear that the etymologies of "F. A. B.'s" pleasant article (page 441) will scarcely bear

examination. The derivation of the name Mistletoe has been much debated, but it is almost certain that it cannot mean the "dropped" plant. Ancient plant names are always from much simpler characteristics than this; they were given by earlier races just in the way children now give names, from some feature obvious to first sight, touch, taste, or smell. The radical sense of the Gothic word mist, clay or dung, is sticky, adhesive, and the same root is found in several Scandinavian words for glue, cement, &c. There is little doubt that the Mistletoe means the sticky or birdlime plant. No one could handle Mistletoe berries for the first time without noticing how they stuck his fingers together, and they are commonly used in the manufacture of birdlime. It is stated in Yarrell and most standard works on ornithology that missel thrush is an abbreviation of Mistletoe thrush, because the bird eats the berries. This quite erroneous guess is, unfortunately, stereotyped in the scientific name *Turdus viscivorus*, and is an excellent instance of a false popular derivation. Missel thrush means simply the large thrush, from the Anglo-Saxon *micel*, great.

Words containing the same root, and illustrating the gradual softening of the hard consonant, are mickle (common in Shakespeare's time for great), mighty, much, most, and many others. These mistaken etymologies are mischievous when they give rise to statements founded on names and not facts, such as that "the food of this thrush consists chiefly of Mistletoe berries." GEORGE ENGLEHEART.

THE INDIAN DODDER.

(*CUSCUTA REFLEXA*.)

ALL the Dodders are twining leafless parasitic plants, but rarely met with in our gardens. Three or four are natives of Great Britain and Ireland, such as *C. europæa*, *C. trifoli*, *C. epilinum*, and *C. epithymum*, of which the common host-plants are Nettles and Hops, Clover, Flax, or other species of Linum, and the wild Thyme respectively; they have wiry, looking stems of a light green, yellow, or pink colour, and bear clusters of small white bell-shaped flowers, and they belong to the natural order of the Convolvulaceæ.

Nicholson mentions *C. americana*, *C. Hookeri*, *C. odorata*, and *C. verrucosa* as stove or hot-house kinds; and *C. australis*, *C. chilensis*, *C. monogyna*, and *C. reflexa* as being suited for greenhouse culture.

All the kinds may be cultivated by sowing ripe seeds with those of their natural host-plant, or by placing a new host-plant in contact with the rambling shoots of a Dodder plant already established. *C. reflexa* is easily grown on plants of the common zonal Pelargonium, or on Cytisus, Jasmine, Clematis, or common Ivy, on the succulent shoots of many other plants and shrubs, preferring, however, as a rule, deciduous plants to evergreens.

The Dodders are naturally increased by means of seed, which germinates in the ground and forms a pallid thin and wiry plumule or stem, which elongates and gyrates at its tip until it touches a green shoot or leaf of its future host-plant. On making contact the Dodder stem sends out green suckers called haustoria, which are never produced unless from stems in touch with a host-plant or with its own shoots, for at times, like the Mistletoe, it is self-parasitic; once established on its host all connection with the earth is immediately lost.



INDIAN DODDER.

(The leaves are those of the host-plant.)

C. reflexa is a common weed in India, growing over scrub and low bushes, and looking like a mass of coarse hay at a distance. Dr. Hooker (now Sir J. D.) in his evergreen Himalayan journals, mentions the beautiful Indian village of Tilotho, near the banks of the Soane river, where he says: "Dodders (*Cuscuta*) covered even tall trees with a golden web, and the *Capparis acuminata* was in full flower along the roadside." It is very easy to grow either in a greenhouse or out of doors during the summer and autumn months. Its lowest thermal limit seems to be 5° of frost, as it generally turns black and dies whenever the mercury in the thermometer descends to 27°. It is very rampant as grown in the open air on *Jasminum revolutum* or *Forsythia suspensa*, or, better still, on the more succulent shoots of *F. viridissima*, but it looks prettiest on dark green-leaved Ivy. Its growing shoots dangle and twine about in all directions, and in both the case of Ivy and also that of *Pelargonium* they show a preference for clasping the petioles of the (for them) food-producing leaves. The flowers are pure white, shaped somewhat like those of Lily of the Valley, but much smaller and more neutricose, and they have a sweetish perfume on a sunny day or in a warm

thing like 60 feet above sea-level, and our average rainfall is 25½ inches, certainly not the most favourable conditions for successful fruit growing, subject as we are to all the prevailing fogs and spring frosts. Our soil, of which we have a good depth, resting on gravel (an excellent natural draining stratum), is composed of what is commonly understood about here as brick-earth, or heavy marl, and therefore not the warmest of soils. We get fair size in our hardy fruits, but we do not obtain the very high and beautiful colour which is obtainable in more favoured southern counties.

In the past, as regards Apples and Pears especially, the bane of English gardens and orchards has been the presence of too many varieties. In the remarks I have to make on the subject I do not propose to weary your readers with a long and useless list of varieties, and by the limitations which I intend to exercise in this respect I doubt not that many excellent and deserving sorts will be left out. This cannot be helped, and I hope others will make good my omission. I would much rather be responsible for dwelling on the merits of one really good sort than I would for mentioning fifty indifferent varieties, and my proposal will be to draw attention to the most reliable and best flavoured varieties of fruits as they ripen and are in condition for dessert, in the hope that the list, when completed, may prove

AMATEURS' PERPLEXITIES.

PLANTING YOUNG WOOD AS WILD GARDEN.

"WILD GARDEN" (Cornwall) asks for advice as follows:—"I have a young wood of some fifteen years growth, mixed forest trees, Beech, Larch, Oak, *Pinus insignis*, *Cupressus macrocarpa*, &c. It is about eight acres and nearly flat; soil an excellent deep loam—never very dry—with good outside 'face' to stop wind; it is on high ground, but its 'face' keeps it sheltered inside. I have during the past seven years gradually planted this wood with a view to a wild garden. It is now planted with Sikkim *Rhododendrons*, Bamboos, Palms, Azaleas, flowering shrubs, &c.; these are more or less grouped in varieties. I now propose to cut out the forest trees—leaving some of the best *insignis* and *macrocarpa*—and plant better things as background to the shrubs, such as good varieties of Holly, Yew, and Conifers. What varieties of Holly, Yew, and Conifer do you recommend? Also, would you recommend me to group them in varieties? Spruce do not thrive, and high growing Conifers will feel the wind when they get above the 'face.'"

[The original meaning and intention of wild gardening being to enrich places of wild growth with such exotic plants as may thrive and look right in character, it seems desirable first of all to keep the main sheltering growth as simple as possible, using for preference native trees and bushes in large numbers of the same kinds, and grouping them alone or in very simple mixtures of not more than two or three kinds within view at one glance. We should, therefore, advise a distinct preponderance of some simple things like green English Yew, green Holly, or the broad-leaved Hodgins Holly, but not a number of varieties and none variegated. If too many kinds are used it will not be a wild garden at all, but a planted shrubbery of a much more ordinary type. There is nothing against using a foreign tree or shrub, such as *Cupressus macrocarpa*, if it be planted in large enough quantity to make it look as if occupying a stretch of land where it is, at home rather than being on view as a garden specimen. Moreover, this good Cypress has many advantages in itself; it is a beautiful thing, even in a young state, quick of growth, and though tender in many parts of England, just suited to your Cornish climate. If you have these three Conifers in good quantity—Yew, *Pinus insignis*, and *Cupressus macrocarpa*—we think you will have ample, as to numbers of kinds for your space of eight acres; indeed, they will only have just room enough, with bold plantings of Holly, or, still better, of Evergreen Oaks, to let them show what they will do for you in wide simple groupings. A smaller tree that would suit in all ways is Tamarisk; this we should advise you to plant largely, especially near the Monterey Cypress, which already have a slight Tamarisk look of their own, that would all the better fit them for near companionship. Junipers—the common kind always the best—would also suit well with such a planting, treating them rather as large bushes than as trees, though, given suitable conditions, they will grow over 30 feet high. With these good things established in wide colonies upon grass, there will be little difficulty in so planting the rest that you will have a beautiful wild garden, but we earnestly advise you to bear in mind that the fewer and simpler the kinds of plants chosen the better will be the result. It is not easy to restrain oneself to a limited use of the few things needed. In the wild garden more than anywhere else is wanted the simple picture of some one display at a time of some beautiful foreign plant, acclimatised and suited with an English home. No branch of gardening needs more knowledge of plants or a more careful exercise of restraint and caution in the matter of choice.—Eds.]

CULTURE OF BEGONIA GLOIRE DE LORRAINE.

I much admire the illustration of *Begonia Gloire de Lorraine* in *THE GARDEN* of December 29. I should esteem it a favour if you will tell me the best way to grow it. I have a plant of it that I bought of a



APPLE COX'S ORANGE PIPPIN. (Size of original: Height 3 inches, width 3½ inches.)

greenhouse. Our illustration is from an original sketch kindly made from outdoor specimens from the Trinity College Botanical Gardens, Dublin, and it shows the habit and floral characters of the plant better than any mere description could do.

F. W. BURBIDGE.

HARDY FRUITS IN SEASON.

IN writing about a few of the best varieties of hardy fruits in season as they ripen in the Royal Gardens, I think it is only right that I should indicate briefly the relative conditions under which they are cultivated, as regards soil, climate, and position, as I am well aware that some of the fruits which succeed well in this part of Berkshire would certainly not do so well in the midlands and northern counties. As bearing on this point it would not only be interesting, but most instructive, if my notes could be briefly supplemented by other correspondents from different parts of the kingdom as to the varieties that succeed best in their several counties. As is generally known, the Royal Gardens at Frogmore are situated in the eastern, or, more correctly speaking, the south-eastern division of Berkshire, within a few hundred yards of the river Thames. Our elevation is some-

useful to some of your many amateur readers interested in hardy fruit culture, and also in the hope it may be the means of making many converts to this interesting and important industry. On the approach of Christmas good varieties of Apples and Pears are considerably narrowed down to what they have been in the preceding months, and this refers especially to Pears. The Apple being, without doubt, the most important British fruit, it is my pleasure to bring before your readers the variety of what I am sure I may by universal consent call the queen of dessert Apples, namely, Cox's Orange Pippin. I am aware that some other aspirants to fame have had the temerity of challenging its position in this respect, but there is not one that has the ghost of a chance. It is the dessert Apple, certainly from the beginning of October to the middle of February, and let me advise all who love a good Apple to plant it largely.

It succeeds very well as a standard or a bush tree. Grown as a standard it is best worked on the crab, but as a bush the best results are obtained from trees worked on the Paradise stock. With us it grows freely and fairly abundantly, especially in the bush form. To Mr. Charles Turner, of the Royal Nursery, Slough, I believe belongs the credit of introducing this superb Apple.

Royal Gardens, Windsor.

OWEN THOMAS.

nurseryman last spring when in full flower. It has been in a cool greenhouse since June, but looks sickly and small. I shall be glad of advice as to its culture.—M. A. C.

[To succeed with *Begonia Gloire de Lorraine* it needs a temperature above that of a cool greenhouse, and this is probably the reason of yours proving unsatisfactory. The usual method of growing it is this:—As the plants show signs of exhaustion after flowering, which will be the case with some at this time of the year, they are kept rather dryer at the roots, in a structure with a minimum temperature of 55°. As the days lengthen a little additional heat is an advantage, and in a temperature of 60° to 70° the plants which have been previously shortened back will push forth young shoots from the base. It is these shoots that form the only satisfactory cuttings, portions of the flowering sprays being quite useless for the purpose. When about 3 inches long these young shoots may be taken off and inserted singly into small pots, in a compost formed of equal parts of loam, leaf-mould, and silver sand, the whole being passed through a sieve with a quarter of an inch mesh—the only time that a sieve should be employed when preparing the soil. Then, in a close propagating case, in, if possible, a structure slightly warmer than that in which they have been grown, the cuttings will soon root, when they must be at once inured to the ordinary atmosphere of the house. In about a fortnight after they may be potted into 3-inch pots, using equal parts of loam and leaf-mould, with a liberal sprinkling of sand. If kept in a temperature of 60° to 75° the young plants will grow quickly, and when large enough may be put into their flowering pots, a suitable size being 5 inches in diameter. A mixture of two parts loam to one part leaf-mould and well decayed manure, with a little sand, will suit the plants well for their final shift. In this way good flowering specimens may be obtained by the autumn, and they will continue to flower for months, but a minimum temperature of 55° is essential to their well doing. If an increase of stock is not needed, the old plants can be grown on, in which case they must be treated as above recommended till the young shoots make their appearance, when the plant which has been previously shortened must be cut back to within a few inches of the soil, of course taking care not to cut off any promising shoots towards the base. Then, when these shoots are about an inch long, the plant should be turned out of the pot, the greater portion of the soil shaken off, and repotted in the compost above recommended for the final shift. If you were to treat yours in this way it would give satisfaction.]

GROWING AMERICAN WILD FLOWERS.

“NORTHERN” writes as follows from Northumberland:—“I shall be glad of advice on the subject of growing some of the beautiful American wild flowers described as inhabitants of woods and swamps. My idea is to make an irregular-shaped mound of sandy soil, sinking in the middle a large old iron bath 7 feet long by 4 feet deep, to make a damp, peaty spot. Or would large holes, filled with suitable soil and surrounded with big stones, be better? I have plenty of sandstone and river sand. The place is shaded from the south and west by belts of trees. These wood plants seem to be so seldom grown in our English gardens. I shall be grateful for any hints on the subject.”

[The old bath will be of use as the foundation of the moistest spot, but it should be well buried under ground, so that no edges could possibly show. A few stepping-stones could be placed over portions of the edge the better to define the swampy area; not exactly all round it, but so as to show the boundary, say, for two-thirds of the way, when a stone or two would be enough to mark the rest. Within this, the dampest space, would be the place for the grand *Cypripedium spectabile*, *Sarracenia* and *Rhexia*, *Lobelia cardinalis* and *Lilium superbum*, with the moisture-loving Ferns *Oncoclea sensibilis* and *Osmunda cinnamomea*. Just outside the dampest place, but still in cool beds of vegetable soil, would come *Monarda didyma* (the Scarlet Balm), 12 feet high and bril-

liant in July; and for late autumn-blooming of about the same height, *Gentiana Andrewsii* and the graceful *Gillenia* and *Smilacina racemosa*. As shrubs and plants of taller growth, *Kalmia latifolia*, *Rubus nutkanus*, and *R. odoratus*, with the bold, white plumed *Spiraea Aruncus*; for a lovely spring flower *Mertensia virginica* should be planted with a group of Ferns, because it dies early. This beautiful plant may well be associated with *Tiarella cordifolia* and *Uvularia grandiflora*, also flowers of earliest summer. *Gaultheria procumbens*, *Mitchella repens*, and *Cornus canadensis* will give close carpets of dainty shrubby growths, and there should be spreading tufts of *Sanguinaria canadensis*, with the *Asarums*, whose leathery leaves, much like *Cyclamen*, persist the whole year through. One of the loveliest of woodland plants, *Trillium grandiflorum*, would also come in the shadier part of this region, and also the yellow long-spurred *Aquilegia canadensis* and the beautiful blue *Columbine* (*A. cœrulea*) of the Rocky Mountains. Here also, best grouped among Ferns, would come the other tall *Lilies* *canadensis* and *superbum*.

In rather drier and more sunny ground places should be found for the creeping *Phlox divaricata* and the varieties of *P. subulata*, and for *Pentstemon glaber* and the Silkweed (*Asclepias incarnata*), with the shorter-growing, bright orange-flowered *A. tuberosa*. *Chrysogonum virginicum*, a low-growing plant with yellow composite flowers, is worth growing though not indispensable, but will be content to push its white root-runners through the earth in spots of secondary importance, but it has the merit of a long flowering season in the late summer. *Claytonia virginica* is a pretty little plant of spring, but dies away entirely quite early. *Houstonia* is a little gem, while, if there is a hot, sunny spot in dry rockwork, there should be a bold tuft of *Opuntia Rafinesqui*. With these North American plants alone, to say nothing of well-known things of taller growth, such as the perennial Sunflowers, Golden Rods, and Michaelmas Daisies, a whole beautiful garden, and mostly a wood-garden, may be made.]

[As readers sometimes ask questions of general interest and requiring longer replies than can be given in the usual column, we have created this new heading as a means of rendering as much assistance as possible. At the same time, we hope our replies will not deter any readers experienced in the matters dealt with from recording their knowledge also.—Eds.]

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

WATER LILIES IN WINTER.

MOST of the new Water Lilies are quite as hardy as the old *Nymphæa alba*, and where they are established in ponds of deep water, with their crowns some 2 feet below the surface, they will need no further protection; but there are so many people now trying them in a small way, either in tubs or in artificial shallow ponds, that a caution may be useful as to not letting these go without protection long enough to permit the whole of the water to become frozen through. A few inches of ice will be of no moment, but when severe frost sets in the tubs must be covered. I use a framework of wood thatched over with straw on each large tub, and this was quite sufficient for last winter; but with more severe weather I should put a few inches of dry leaves or bracken over the thatch, and a mat over all to hold the leaves in place. A very thick coating of leaves would do more harm than good, as it would probably become heated.

YUCCAS.

These noble-looking plants might be more often grown in northern gardens than they are if the simple means of drawing the leaves upwards and tying them fairly tight, towards the tips, above the crown of the plants, were taken in winter to protect the hearts and younger foliage from snow

and wet, combined with frost. If the plants are tall and leggy the stems might also be protected by hay-bands twisted neatly round them.

CARNATIONS.

Carnations being shallow rooting, especially as regards layers replanted this autumn, are often partially thrown out of the ground by each recurring frost of any severity, so whenever a thaw occurs the beds or groups should be gone over and the plants pressed well back into the soil again. Neglect of this will lead to many gaps that have to be filled up again in spring with plants that will not flower so well nor so strongly as those planted. Carnations being wintered under glass in pots for spring planting must be kept quite dry at the root, for they will, if standing on ashes in a cold frame, absorb quite sufficient moisture from their surroundings to hold them safe for the present.

HEREACEOUS PLANTS.

Many of these are slow to root if replanted in autumn, and the remarks as to refixing the Carnations are equally applicable to many subjects grown in mixed borders.

BEDDING PELARGONIUMS.

Early struck bedding Pelargoniums will make finer plants for bedding out if they now have their tops pinched out so that they may break again ready to form bushy plants a few weeks hence after being either potted or boxed off again. When allowed to grow to a single stem only they often become leggy and awkward to deal with at planting time. For the present stock of this sort should be kept fairly dry at the root, and no attempt to start them into growth should be made for a week or two.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

FRUIT GARDEN.

FORCING STRAWBERRIES.

In a few cases for very early supplies forcing may have commenced before this date, but I do not advise too early forcing for several reasons. One, and a strong one also, is that in all gardening matters the crop obtained is not commensurate with the labour and cost entailed. Of course, where cost is not considered, my remarks are not applicable; but even then hard forcing should be avoided, as the fruits lack quality grown thus. Nothing new can be advised respecting the forcing, and I will describe our own methods. On the other hand, large quantities at one time may not be needed, so that as regards numbers of plants each case must be considered on its merits. If a gentle bottom heat can be afforded the plants at the start thus early in the year so much the better. On the other hand, many grow fine fruits independent of bottom heat by placing the plants in fruit houses, such as vineries or Peach houses, just being started. The temperature given these houses just suits the Strawberry. The plants may be placed on shelves, and in this position they get abundance of light. If a Strawberry house or a small pit can be afforded these plants so much the better, as here the best treatment can be given. The temperature should commence at 50° to 55° by night, the minimum in cold weather, with a rise of 10° by day, and allow the thermometer to run up freely on bright days. Damp overhead in bright weather, and water sparingly with tepid water till growth is vigorous.

PREPARING THE PLANTS.

Many growers are unable to house large quantities of plants under glass and they are plunged in the open or given temporary shelter. In the case of plants plunged in open beds, they are apt to get frozen so badly that at the time needed to force they cannot be handled. To avoid this it is a good plan for plants to fruit, say, in March or April, to house now in cold frames or fruit houses at rest; but in the latter it is not well to let the plants get dry at the roots, or the crowns become weakened. If placed in a gentle warmth to start, leaves are good, as these heat slowly and give off a nice moisture. If manures are used for bottom heat it is not well for the temperature to exceed

80°. One of the difficulties growers have to contend with with forced Strawberries is mildew, and some plants are more subject to this pest than others. Prevention is better than cure, and if the plants are dressed with a sulphur solution before they are started they will keep clean. It is a good plan to dip the leaves, first removing any decayed ones. I do not advise top-dressing Strawberry plants before placing in their forcing quarters. I fail to see the necessity of this, as the new soil added keeps wet and the older soil and roots are dry and suffer. Whatever feeding is needed can be done later on in the shape of liquid manures and fertilisers. It is well to see that the drainage is perfect, to get rid of worms in the pots by watering with lime-water, and to clear the pots before placing on shelves.

VARIETIES, AND OTHER METHODS OF FORCING.

Many market growers, also amateurs, get good fruits by diverse methods. Large quantities may be started by placing the plants close together and then selecting the most advanced and placing in a warm house; but up to the time the plants have set their flowers hard forcing must be avoided. If possible give a free circulation of air on all favourable occasions. Strawberries do well with only frame protection, providing a little warmth can be given, and if bottom heat can be afforded so much the better. Pot Strawberries plunged in the warm bed soon respond and show flower crusses; but, of course, the plants grown thus need more time than in modern houses or on shelves. In mixed houses plants may be forced if the temperature is not too high. I have seen excellent results from plants cut out of the soil with a spade, with the roots intact, and placed in boxes in front of fruit houses, or the plants potted up and put on shelves or boards fixed over the hot-water pipes—a flow and return pipe in frames will grow good material. As regards varieties for earliness, our best is the Vicomtesse H. de Thury, not a large variety, but one of the best flavoured, and this will set in more heat than most other kinds; indeed, we have grown it in a moist Cucumber house. For later use, the Royal Sovereign cannot be beaten. This is now well known, and does not need praising; it is the most useful of all.

G. WYTHES.

Syon House Gardens, Brentford.

KITCHEN GARDEN.

GENERAL REMARKS.

HAVING decided where the principal crops are to be grown, advantage should be taken of dry mornings to wheel manure to the different quarters in readiness for digging and trenching, which should be proceeded with on every favourable occasion. A good depth of soil is necessary for the successful cultivation of vegetables. An effort should be made to trench as much as possible each season. Where the subsoil is cold it is not desirable to bring too much of it to the surface, as by so doing the ground will be rendered unfit for the reception of small seeds for some time to come. The subsoil may be materially improved by forking into the bottom of each trench a quantity of old lime rubble, wood ashes, or any decayed vegetable matter that may be available. During the present mild weather care must be taken of the storage of early seed Potatoes, which should be spread out as thinly as possible to prevent untimely sprouting. The same remark applies to the Onion loft, which should be looked over on wet days, throwing away all rotten bulbs, and putting on one side for immediate use those beginning to sprout. Give abundance of air to Cauliflower plants in frames, also Lettuce and Endive. The lights may be removed on fine days, but the plants must not be subjected to heavy rain.

SEED LIST.

As many of the vegetable seeds will shortly be required, the order should be got ready and despatched without delay. The improvement that has taken place within the last few years amongst vegetables renders the trial of a few novelties necessary in order that some of the old varieties

may give place to those of recent introduction, and especially amongst Peas. At the same time I would advise no one to rely on any novelty to the exclusion of standard varieties without first giving it a trial in a small way.

FRENCH BEANS.

Fortnightly sowings should be made from now onward to ensure a constant supply. Seven-inch pots are the best for the purpose. Fill three-parts full of rich soil and place seven or eight Beans in each pot. Cover lightly with fine soil and place in a temperature of 70°. When the plants are a few inches high they may be earthed up, and with a liberal use of the syringe the Beans should be ready to gather within seven weeks from the date of sowing. I find Osborn's Forcing the best variety for this purpose. It takes up less room than most varieties, and if given plenty of light and air can be grown without sticks.

CUCUMBERS.

If the seeds for the early batch have not already been sown no time should be lost before they are. The best way is to sow in small pots, using fine sifted loam and leaf-soil in equal quantities. Plunge in a brisk bottom heat as near the glass as possible, and cover over with pieces of glass until the young plants make their appearance, when of course it must be removed. As soon as the plants are large enough they should be tied up to a small stick to prevent twisting about by the syringe, which must be used with great care. A night temperature of 70°, and 75° to 80° by day in mild weather will suit the young plants well.

JOHN DUNN.

The Royal Kitchen Gardens, Windsor.

Mr. Henry Cannell, the well known nurseryman at Swanley, lectured recently before the Crays and Orpington Gardeners' Society upon the benefits of vegetarianism, based upon some years practical experience.

Obituary.—We are very sorry to hear of the death of the only son of Mr. N. E. Brown, of the Kew herbarium, which took place on Tuesday last. We tender our sincere sympathy to Mr. Brown and family in their trouble.

Annual meeting of the National Dahlia Society.—This was held on Tuesday afternoon last, at the Horticultural Club. Mr. Mawley was in the chair, and he was supported by Mr. C. E. Wilkins, treasurer, and Mr. J. F. Hudson, hon. secretary. We must, through pressure upon our space, leave over a full report until next week.

The Gardeners' Royal Benevolent Institution.—The committee have the pleasure to announce that the annual friendly supper will take place, after the annual general meeting, on Tuesday evening, January 22, at Simpson's, 101, Strand, London, at 6 p.m., when Alderman Robert Piper, of Worthing (country member of committee of management), will preside. As the accommodation is limited, the stewards for the evening, Messrs. George Monro, W. Y. Baker, and Owen Thomas, will be greatly obliged by an early intimation being sent to the secretary from those friends who desire to be present on the occasion, in order that proper arrangements may be made. The price of the supper will be, as usual, 7s. 6d. As previously announced, the annual meeting will take place at three o'clock on the same day, Mr. Harry Veitch in the chair. All the voting papers have been issued. Any subscriber who has not received a copy should communicate with the secretary, GEORGE J. INGRAM, 175, Victoria Street, London, S.W.

The Kew Guild Journal.—Past and present members of the Royal Gardens, Kew, always welcome with pleasure the appearance of the above publication. The eighth annual journal has recently reached us, and proves to be equally as interesting, if not more so, than its predecessors, which is saying a great deal. The Kew Guild is an association of all who are, or who have been at any time, employed as gardeners or in any position of responsibility in the Royal Gardens, and the journal is the official publication of the guild.

Until last year the only opportunity afforded to past and present Kewites of meeting each other was on the occasion of the annual general meeting, held in February of each year. This, however, was felt to be insufficient, and in February, 1900, it was decided to hold an annual dinner in the month of May. The first of these functions took place at the Holborn Restaurant, on May 22 last, and was an unqualified success. The frontispiece of the journal always consists of the portrait of some distinguished past or present Kewite, and this year this honour has fallen to Herr H. Wendland, director of the Royal Gardens, Herrenhausen, Hanover, who left Kew in 1849, and is one of the guild's most eminent foreign members. The deaths are recorded of Dr. G. R. Cundell, medical officer for the gardens; Mr. James Phillips, Allahabad; Mr. J. M. Gleeson, Madras; Mr. C. Brown, Kennington Park; and Mr. H. Walter, Director of the Royal Gardens, Berlin. The report of the debating society shows that this continues to do important work. The average attendance was 41 out of a membership of 54. Five lectures were contributed by the Kew scientific staff. Besides the usual course of lectures in systematic, economic, and geographical botany, and physics and chemistry, those working in the Royal Gardens have the advantage of a British botany club, which does excellent work during the summer time. Excursions are arranged to various districts for the purpose of collecting and determining British plants, and usually under the guidance of an experienced botanist. Numerous are the appointments recently made from Kew, both to the colonies and at home, and many are the interesting letters written home by those in far away lands and published in the guild journal. We hope again to refer to some of these. There are still two lady gardeners at Kew; several have recently obtained appointments from Kew. As complete a list as the editor has been able to obtain is given of past Kewites, and this comprises names from all parts of the world; the present Kew staff is also detailed. Two excellent supplementary illustrations are given of the south wing of the temperate house and the Rhododendron dell. It would take us long to even mention all the notes and letters most interesting to past and present Kewites that are to be found between the covers of the "Kew Guild Journal;" suffice it to say, that its readers in all parts of the world, who cannot fail to enjoy a perusal of the contents, owe a debt of gratitude to Mr. W. Watson, the editor, whose time and labour are freely expended for the good of the journal. He is to be heartily congratulated upon the result.

Colchicum Ritchi.—In some notes sent to THE GARDEN some time ago I did not mention *Colchicum Ritchi*, a species which I had only procured last autumn and had not flowered. It is now in bloom, and is a pretty little Meadow Saffron, which is none the less attractive from its producing its leaves with the flowers. The flowers on my plant are what may be called rosy pink, and are small beside those of the *Colchicums* which have preceded it. Mr. Smith, of Newry, has, however, sent me a plant with white flowers, slightly larger in size than those of the pink-coloured form I have had here, and considerably more pleasing. This white variety is quite a desirable plant. Mr. Baker classes *C. Ritchi* along with *C. montanum*, but speaks of it as "forma filamentis basi cristatis," small distinction for garden purposes. It reminds me greatly of *C. hololophum*, which I have flowered, but have lost. That also is classed with *C. montanum*.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Scarborough Lily.—I observe that a correspondent refers to this popular name for *Vallota purpurea*, with an expression of doubt as to its origin. I have a vague recollection of having somewhere read of a tradition that a quantity of bulbs of this plant were cast ashore from some shipwreck without injury to their vitality, and, having thus become pretty common in the vicinity, acquired the name of the place which had given them hospitality. Perhaps some of your readers may be able to throw further light on this legend: *Se non è vero è ben trovato.*—W. THOMPSON, *Ipswich.*

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[JANUARY 19, 1901.

ORIGIN OF THE HYBRID NYMPHÆAS.

WE have more than once expressed a wish to know the origin of the beautiful hybrid Water Lilies which have given a new and permanent interest to English gardens, and our frequent correspondent, Mr. F. W. Burbidge, of the Trinity College Gardens, Dublin, referring to what "J. F. H." expressed in his note on *Nymphæa Froebeli* in *THE GARDEN*, January 5, page 11, says "that it would be a most valuable addition to our botanical and horticultural knowledge if M. Bory Latour-Marliac would tell us in a few words how he raised his beautiful strain of coloured hardy Water Lilies."

When we consider the raw material M. Marliac had ready to his hand to work upon, we think we may guess pretty accurately how the new hybrid and seedling variations originated. Of wild or native species and varieties there were *Nymphæa candidissima*, the great white Water Lily of Hampton Court, which clearly shows its luxuriant influence in all the *N. Marliacea* variations. There were also rose-coloured and yellow kinds, such as *N. Casparyi* (= *N. alba rosea*) from Sweden and *N. odorata rosea* from North America, evidence of which may be seen in some of Marliac's seedlings. *N. flava*, the yellow-flowered Water Lily of Florida, seems to have exerted its influence on *N. chromatella*, along with that of *N. candidissima*, and no doubt its influence is seen in *N. pygmæa Helvola*. The *Leydekeri* forms suggest *N. pygmæa* and some rosy form as having been their parents, and *N. pygmæa Helvola* may be *N. pygmæa* crossed with *N. flava*.

If we remember that all M. Marliac's seedlings fall naturally into three main groups, Mr. Burbidge writes: "I think a sidelight is shed on their probable parentage. Thus, as before assumed, *N. candidissima*, crossed with *N. flava* and with *N. alba rosea*, seems to account for all the large and vigorous-habited *Marliacea* group.

"*N. Leydekeri*, as hinted above, seems to have originated from *N. pygmæa*, crossed with *N. alba rosea*, with which last they all agree in becoming darker in tone or colour day after day. Then we have the white and rose-flowered *N. odorata* group, easily recognised by their peculiarly dainty flowers. The so-called *N. odorata sulphurea* and its larger-flowered form

are a little anomalous, there being but little evidence of *N. odorata* having exerted any part in their parentage. They have the habit of *N. Marliacea chromatella*, but are more spiky petalled and have deeper yellow flowers. They may possibly have sprung from *N. flava* or from *N. Marliacea chromatella*, crossed back again with pollen of *N. flava*. Their vigorous luxuriance and peculiar Cactus-shaped flowers render them very distinct additions to hardy *Nymphæas*. Your beautiful coloured plate of *N. Froebeli* is very interesting, and may stand as evidence of a valuable lesson on possible variations obtainable by mere seminal selection, for, as I gather, it is merely one of a large number of seedlings from *N. Casparyi*, pure and simple. Does not its origin suggest quite a similar source for M. Marliac's deep red and crimson kinds? To me it looks like a smaller edition of 'Wm. Falconer,' and in colour seems between *N. ellisiana* and *N. gloriosa*. In any case it is a very lovely flower.

"It seems to me that, now two or three distinct breaks have been secured by M. Marliac, all we have to do is to rear seedlings in quantity and select from them the best kinds only when they bloom, all of which requires ample time and space and a genial climate. A friend made a special visit to Temple-sur-Lot a year or two ago in order to see M. Marliac's Water Lilies and his system of cultivation. Many of the seedlings are grown separately in small tubs, so as to be quite certain of their identity, &c., at all times and seasons. Others of the more vigorous-habited kinds are grown in shallow cement tanks, pools, or basins, along with other aquatics. So far as I know but few, if any, seedlings are raised in America from American sown seed, and there is a wonderful *Marliacean* 'look' or appearance about some of the so-called American seedling Water Lilies."

APPLES ON WALLS IN THE NORTH.

IN the northern part of the country Apples may be grown on walls that are not first-rate grown otherwise. I am aware that in many other places Apple trees give a good return, but I do not advise them grown thus, as I have observed that there are so few failures with these fruits given good culture. Grown as bush trees they are most reliable. My note more refers to the northern part of the country—Northumberland—and certainly they are a great success, as the fruits for dessert, if given wall protection, colour so much better, and, what is still more important, some of the early kinds may be gathered for dessert some

time in advance of those given different culture. The actual culture I do not intend to dwell upon, and I fear many of my readers will not think Apple culture on walls a very important subject, as with a glut in the west and southern parts of the country they may think wall space could be placed to better account. I was a few years ago of the same opinion, but since I have seen the splendid fruits obtained from walls, and the difference both in appearance and quality, I am sure in the county named, and doubtless in others also similarly situated, there is a great deal to say in favour of dessert varieties being grown on walls.

Of course I do not advocate cooking kinds, but this is done in some districts for special purposes, and in more favoured localities, such as the West of England, I remember seeing the best lot of Peasgood's Nonsuch on a wall I ever saw, and in parts of North and South Wales I have seen grand fruits of the Ribston grown on east and west walls. The Apples grown thus at Alnwick Castle do remarkably well and are fine trees, having been planted by Mr. Harris I should say from ten to fifteen years ago, and certainly the crops during the past two years have been excellent.

The first to claim attention is the newer Lady Sudeley, and grown on a south-west aspect the fruits are very fine and the colour superb. The fruits are fit for table some time in advance of the usual season from trees in the open and in the North. Early Apples are a great gain for dessert, and the variety named can be gathered daily from the trees and used. This Apple is certainly at home in the North (and in Scotland it was succeeding well grown as cordons on a west wall). The trees at Alnwick are mostly horizontally trained and cover a good space. Grown thus they produce in quantity, and are grown with so little attention in the way of pruning and stopping, as most of the fruit is produced on spurs.

Duchess of Oldenburgh appears to be a splendid wall tree, and is prized for dessert. I am aware it is classed as a culinary fruit, but many persons like its brisk, refreshing flavour in September, and grown on a wall it is very handsome. Of course, no list of wall trees would be complete without Ribston Pippin and Cox's Orange, and they are certainly worthy of a place as wall trees, both for their crop, colour, and size, and in the North, at least in some cold, exposed soils and situations, Apples do not colour as well as one could wish, and this is avoided with wall trees. I do not advise growing Apples and omitting other fruits needing shelter, but where possible it will be found that this mode of culture is profitable. I think in the North the new Allington Pippin will make a splendid wall tree, as grown thus it colours splendidly, having a beautiful Peach-like bloom. The Mother Apple is also promising, and the Christmas Pearmain is a beautiful fruit. I need not go into varieties, as so many would succeed on walls and in gardens where room to grow these fruits is limited. Many could grow cordon trees, which can often be planted between other trees, as they take up so little space if grown upright, and give a quick return. I do not advise growing very strong kinds in this way, as they need more room to develop, but, as previously stated, there is no lack of good varieties.

G. WYTHES.

Syon House Gardens, Brentford.

NEW AND RARE PLANTS.

EPIDENDRUM CLAESIANUM.

M. FLORENT CLAES, Orchid grower, 55, Rue des Champs, Brussels, sent a specimen of the above bearing many drooping racemes of small white flowers. Botanical certificate.

LELIA ANCEPS SIMONDSII.

THE sepals and petals of this charming flower are pure white; the throat is beautifully marked with purple lines, and having a band of pale yellow along the base; the lip white, slightly speckled with faint purple. Exhibited by Mr. H. F. Simonds, F.R.H.S., Woodthorpe, Southend Road, Beckenham. Award of merit.

LYCASTE LASIOGLOSSUM.

THIS is a very distinct flower of good size. It was shown by Messrs. B. S. Williams and Sons, Upper Holloway, N. The sepals are deep chocolate-brown in colour, the upper petals yellow, with a faint tinge of green; the lip is marked with orange-red, and is covered with soft hairs. The plant shown bore several flower-scapes, two flowers being fully open. Award of merit.

DENDROBIUM ASHWORTHÆ.

THE flowers of this Dendrobe are more curious than beautiful. The sepals are pale greenish yellow, as also is the lip. The two upper petals are white, narrow, elongated, and curled at their bases, becoming towards the apex broader and flat. A tuft of soft, long hairs is noticeable at the junction of the petals and flower-stalk. From Mr. E. Ashworth, Harefield Hall, Wilm-slow. Award of merit.

CYCLAMEN LIBANOTICUM.

THIS is a new hardy species with prettily marked leaves and pretty rosy pink flowers. These are of a good size and well thrown up above the foliage, decidedly an acquisition to the hardy Cyclamen. Shown by Messrs. G. Jackman and Son, Woking Nursery, Woking. Award of merit.

PRIMULA FLORIBUNDA GRANDI-FLORA ISABELLINA.

THIS new Primula should prove to be a most useful one for the greenhouse. Its habit and foliage are a great improvement on *P. floribunda*. The flowers, creamy white in colour, are produced very freely, and the persistent flowering, so valuable an adjunct of *P. floribunda*, is apparently conserved in the above. Exhibited by Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (gardener, Mr. W. Bain). Award of merit.

* All the above were shown at the meeting of the Royal Horticultural Society, held in the Drill Hall, Westminster, on Tuesday last.

NOTES OF THE WEEK.

Obituary.—We are grieved to hear of the death of Mrs. Gordon, wife of the editor of the *Gardeners' Magazine*, after a serious illness of many months.

The tallest Beech in England.—The photograph of this beautiful tree, a reproduction from which appeared in *THE GARDEN* of January 5, was taken by Mr. J. T. Newman, of the Art Studio, Berkhamsted. We are sorry that we omitted to mention this at the time of its appearance.

Scottish Horticultural Association.—The annual business meeting of this association was held on the 8th inst., at 5, St. Andrew Square, Edinburgh, Mr. D. P. Laird presiding. The report of the secretary (Mr. R. Laird) showed continued success in all departments of the society's work. The membership was nearly 1,000, and they were one of the leading horticultural societies in the country. During 1900 six life members were added to the roll, as well as 129 ordinary members,

while nine had been removed by death. The treasurer's report, submitted by Mr. W. McKinnon, showed that the funds of the society amounted to £840 16s. Both reports were adopted, and a cordial vote of thanks was awarded Mr. Laird on his retiring from secretarial duties. The Duke of Buccleuch was re-elected honorary president; Mr. Charles Comfort was elected president; Messrs. Thomas Fortune, A. Mackenzie, George Wood, and R. Laird, vice-presidents; Mr. Peter Lonee, 6, Carlton Street, secretary; and Mr. McKinnon treasurer.

Senecio magnificus.—A newly introduced plant nowadays has two claims to the attention of horticulturists—first as a useful or ornamental plant; and, secondly, as a breeder from which good things may be obtained by hybridisation.

If a plant cannot be recommended for the former it receives consideration in the latter capacity. It would be easy to name a long list of species which have proved breeders of high class garden plants, although they themselves were inferior. The introduction from Australia of a distinct and horticulturally new Groundsel (*S. magnificus*) is the latest example. In itself of no more decorative value than the common Ragwort, if as much, it is nevertheless possessed of certain peculiarities, especially of habit and foliage and time of flowering that have already appealed to the raisers of hybrids, and the prospect of infusing some of these characters into such as the garden Cineraria, which is of course a *Senecio*, or the African *S. lilacinus*, or the beautiful but delicate *S. pulcher* from Brazil, has given the new comer an interest which otherwise it would not have. Of the thousand or so species of *Senecio* distributed all over the world, some twenty-five are natives of and peculiar to Australia, and *S. magnificus* is one of them. It is an erect, glabrous, and glaucous shrub 3 feet high, freely branched, the stems cylindrical and striate, the leaves spatulate, coarsely toothed, narrowest at the base, 3 inches long, 1 inch wide, and almost succulent in texture. The flowers are in erect terminal corymbs of from four to a dozen heads, each 1½ inches across, with from eight to twelve ray florets coloured primrose-yellow, and a disc of a darker shade of yellow. They last a week or more, and the plant continues to develop them from early autumn to midwinter; at any rate, it has done so at Kew, where it is still in flower, having been raised from seeds received two years ago from Sydney. It is perennial, cuttings of it root readily, and it appears likely to be fruitful of seeds.—W. W.

Mildness of December, 1900.—From Essex Miss Willmott writes that she had in flower on Christmas-day, besides *Pyrus japonica*, *Jasminum nudiflorum*, *Chrysanthemums*, *Hellebores*, *Roses*, and all these good things: *Iris alata*, *I.*

Vartani, *I. reticulata*, *I. danfordiæ*, *I. bakeriana*, *I. histrio*, *I. rosenbachiana*, *I. unguicularis* vars., *Anemone hortensis*, *Sternbergia fischeriana*, *Galanthus Elwesi ochrolepis*, *G. E. unguiculatus*, *G. E. Whittalli*, *G. cilicicus*, *Crocus Sieberi*, *C. Imperati*, *C. ancyrensis*, *Merendera* sp., *Fritillaria* sp., *Colchicum Agrippinum*, *C. chionense* (variegatum), *Schizostylis coccinea*, *Sarcococca prunifolia*, *Erica codonodes*, *Escallonia exoniensis*, *Erica carnea alba*, *Phlomis*, *Kniphofia Triumph*, *Potentilla alba*, *Wallflower*, *Polygonum Posumbi*, *Iberis semperflorens*, *Narcissus pallidus præcox*, and others.

A new hybrid Dendrobium.—M. Georges Mantin has been successful in flowering a new hybrid, obtained from *Dendrobium nobile* and



SENECIO MAGNIFICUS (FLOWERS YELLOW).
(Flowering for the first time in England.)

D. fimbriatum oculatum. This is the first hybrid *Dendrobium* ever obtained in France, and is undoubtedly a most valuable acquisition. In form the flower resembles a large *Dendrobium nobile*; the petals and sepals are slightly twisted, with a tendency to roll up, the former being very broad; the lip is less open and more acuminate than in *Dendrobium nobile*. With reference to the colouring, this is fairly well mixed. The points of the segments are spotted with purple-rose, the remainder being white, with pale yellow at the base of and along the central line. The tube of the lip is rather heavily marked with golden-yellow, and a band of clear golden-yellow encircles the deep purple-brown spot of the disc. We propose to name this remarkable hybrid after the raiser, *Dendrobium Mantini*.—*L. Jardin*.

Chrysanthemum Mrs. Wm. Filkins.—At the January meeting of the National Amateur Gardeners' Association a vase of this pretty spider Chrysanthemum was much admired. The plants from which the flowers had been gathered were lifted from the open border in early November, at which period the buds were well set. Each plant was potted up into a 10-inch pot, and afterwards placed in a cold greenhouse, where they remained until the date the flowers were gathered. Beyond an occasional watering and the removal of decaying foliage, little was done other than judicious ventilation of the glass structure. No disbudding was allowed, and the result was seen in a free display of dainty little sprays of blossom. These facts go to prove how useful is this pretty yellow Chrysanthemum for midwinter decoration.

Habit of the common Bracken.

I admit I am surprised by the statement attributed to Mr. Newman—that the rhizomes of the Bracken penetrate into the ground 15 feet deep, because the rhizome is not a root but an underground stem, which, no matter how good the soil may be underneath, travels on the surface just under the sod. As to the length of the rhizomes, I apprehend, by Mr. Drury's statement, that he means they run yards away from the parent stool before throwing up fronds, whereas they throw up at short intervals, often only a few inches apart and very seldom feet. As to their crossing the broad walk mentioned, were the rhizomes found under the walk, or were the fronds cleared off the walk as they pushed up, thus forcing the rhizomes further on? I have seen that happen, but never knew them to cross, like a mole, till they reached the other side. I submit, also, that the expression "almost impossible to transplant" cannot be correctly applied to a plant that can be moved easily at the right season. There are numbers of garden plants and shrubs that would die if moved at any other than the dormant season, but are not regarded as bad transplanters on that account.—J. SIMPSON.

Riviera notes.—The season on this coast has been in proportion of much the same character as in England, but with this notable exception, that while November was unusually wet and stormy, December has been a month of brilliant sunshine and warmth. Only two days have been wet, and one afternoon cloudy; all the rest of the thirty-one days, i.e., twenty-eight and a half, have been practically cloudless. In consequence, autumn flowers have continued in great beauty, and grass in places has needed watering to prevent the sun scorching it, a thing I do not remember before in December. The excessive heat of last July and August has greatly injured both Roses and Carnations, and the harvest of bloom for winter has been diminished fully one-half. Carnations are now recovering, but I doubt if the Roses will, even by next spring, have recovered fully. President Carnot has proved itself a real acquisition to blush winter-blooming Roses for cutting purposes, and as a decorative red garden Rose Grissan Teplitz is a decided improvement on the good old climbing Cramoisi Supérieur. Spring bulbs are very late, as no rain fell till November to penetrate the ground, but I saw one Cherry tree with one side white with blossom on January 1, a freak of nature that is decidedly unusual.—E. H. WOODALL, Nice.

Acacia platyptera.—The fact that this Acacia flowers during the autumn months, whereas nearly all the members of this extensive genus bloom in the spring, is sufficient to distinguish it from most of them, while an additional feature is furnished by the peculiar fattened wing-like expansion on either side of the stem, which is of a bright green colour, and fulfils the functions of leaves, as there are none produced. It should be propagated by cuttings of the half-ripened shoots, put in very sandy peat during the spring months, and the plants so obtained should in their earlier stages be stopped occasionally, otherwise they are apt to run up tall and thin. A mixture of peat, loam, and sand will suit this well, and plants struck from cuttings are so free flowering that effective little specimens may even be grown in 5-inch pots, but

larger bushes will naturally need an increased size of pot. The flowers, which are plentifully borne, are arranged in little balls of the brightest yellow. This Acacia is a native of the Swan River district of Australia, from whence we have obtained so many good things.—T.

Gloxinia maculata.—The specific name of this would suggest a spotted flowered form of Gloxinia, but the name of maculata does not refer to the flowers, but to the peculiar spots on the stout erect stems, which reach a height of 2 feet to 3 feet. It also stands out as one of the few true Gloxinias that we have, the numerous garden forms to which this name is generally applied being now regarded as belonging to the genus *Ligeria*. This Gloxinia forms a tuberous root from which the stem is pushed up. The lower portion is clothed with heart-shaped leaves 6 inches or so across, plain green on the upper surface and tinged with purple below. The flowers, which are borne on the upper part of the stem, frequently for a foot of its length are large, somewhat Fox-glove like, and of a soft purplish lilac hue. It is now seldom seen, though when in perfect condition it forms a good object-lesson on the present day weakness of running after novelties and passing over the merits of desirable old-fashioned plants, for *Gloxinia maculata* itself was introduced from New Granada as long ago as 1739.—H. P.

Pitcairnia corollina.—Of the numerous species of *Pitcairnia* in cultivation this is the finest for decorative purposes, being useful alike as a foliage and flowering plant. It was originally introduced, about thirty years ago, by Messrs. Linden, from New Granada, and flowered for the first time in Europe in 1874 in the garden of Baron Rothschild at Ferrières-en-Brie, near Paris. It makes a mass of growths, each bearing several leaves 4 feet to 5 feet long and 4 inches wide. The upper portion of the leaf is ribbed and is sprinkled with short, horny, dark-coloured spines. The lower portion narrows down to a stout petiole, which, like the other portion, is silvery. The flowers are borne in racemes $1\frac{1}{2}$ feet long from the centre of the growths, the racemes drooping until they rest on the soil among the stems. Forty or fifty flowers 2 inches long are borne on each raceme, and as they are bright coral red in colour an effective display is made. It may be grown well in a large pan in a well-drained mixture of peat and loam, to which a good portion of sand and charcoal has been added. The temperature of a stove is necessary to ensure success.—D. K.

Acacia urophylla.—This species is one of a number worth adding to the few used for greenhouse decoration, and is to be recommended for its elegant habit and free-flowering qualities. The greater portion of cultivated Acacias have yellow flowers of various shades, the one under notice being, perhaps, the palest of the group. In bud the flowers are cream-coloured, fading as they expand to almost white. It belongs to the section which produces its flowers in small spherical heads, these heads being borne along the full length of the previous summer's shoots, which often attain a length of $2\frac{1}{2}$ feet. The false leaves are 2 inches to 3 inches long, and three-quarters of an inch wide in the widest part. The flowering season begins in December and lasts throughout January. After the flowers are over the plant should be pruned hard back to prevent its becoming unsightly and to encourage the production of long arching branches for the next year's flowering. When grown in pots it is greatly benefited by being plunged out of doors for the summer months. Planted in a border as much air as possible should be admitted to the house throughout summer and autumn, and the plant must be kept rather dry after the end of August.—W. D.

Winter flowers.—Owing to the exceptional mildness of the season many plants in my strongly-sheltered garden are still in flower. Within the last week (and this is the middle of "drear December") I have found very fine Roses fully half expanded on those vigorous-growing varieties Caroline Testout, Viscountess Folkestone, and Bouquet d'Or, which are among the most valuable of all my possessions for very late bloom. Flower-

buds formed on Clara Watson (a very beautiful hybrid Tea) and its nearest neighbour the Crimson Rambler are steadfastly growing, and will probably continue their development till checked by the sudden advent of frost. The naked-flowering Jasmine (*Jasminum nudiflorum*), which lights up with its beauty the dark season intervening between the last Rose and the first Snowdrop, is already revealing its lustrous golden flowers. The Auricula is exhibiting unusual activity in the production of blooms, efforts which I hope will most tend to weaken its vernal capabilities. The fragrant Wallflower, one of the hardiest of our garden treasures—though its leaves are susceptible to frosty influences—is also very active at present in the formation of somewhat premature flowers, which even at this season retain their exquisite fragrance. Ere long the Chimonanthus, the Anemone-like Christmas Rose, and the pendulous Snowdrop will appear. The Gorse, so much beloved of the great Linnæus, is in marvellous bloom.—DAVID R. WILLIAMSON, *Manse of Kirkmaiden, Wigtownshire, N. B.*

Temperate house at Kew.—Considerable improvements and alterations are being made in the arrangement of the representative collections of plants contained in the central portion of the above structure. All except the very largest specimens are being transplanted, and the soil in the beds removed to a depth of 4 feet or 5 feet, so that thorough drainage may be provided, a matter apparently neglected at the previous planting. That the ultimate result will fully justify the work now in progress, so far as a more pleasing arrangement of the plants is concerned, is evident from the aspect of those portions now completed, and that the addition of fresh soil will be of the greatest advantage cannot be doubted. Very rarely, if ever before, has the collection of the temperate house plants been so thoroughly overhauled, although for some time past they have been in need of it. To those interested in half hardy plants the temperate house at Kew forms an object-lesson of the greatest interest and importance; its scope has within the last few years been considerably extended by the addition of the north and south wings, known respectively as the Himalayan and Mexican houses. The former is practically a cold house (for although fire heat is available, it is but rarely made use of), chiefly devoted to the culture of half hardy Rhododendrons, while the latter, the Mexican house, has an intermediate temperature, and exemplifies to what proportions economic plants will attain when planted out.—T. W.

Crocus lævigatus.—Among our later-flowering autumn Croci we have few more likely to commend themselves to the flower-lover than this exquisite little species. Its dwarf and unobtrusive habit and the stoutness of texture in its petals seem to mark it out as specially adapted for withstanding the vicissitudes of our seasons. In this part of Scotland at least we have had one of the worst autumns known since I settled down here more than sixteen years ago, yet this little Crocus is giving almost as much pleasure as usual, although the little sun and the deluges of rain are most unfavourable to its well-being. It is one of the species which need less sun than others, and its low stature makes it less liable to be affected by strong winds, which most Crocuses dislike and resent by declining to open. As this is being written it is a steady downpour, but more favourable days cause *C. lævigatus* to open fully in the open without any glass covering, although such species as *C. longiflorus*, *C. asturicus*, *C. serotinus*, *C. ochroleucus*, and others would not respond to the cool advances of the wan sunshine. Its white, varying to lilac, segments, its yellow throat, and the purple feathering which gives more beauty to its outer segments all combine, with its neat growth, in giving us a flower sure to please those who can appreciate the Crocus at a time when it is more welcome than in the more flower-laden days of spring.

Crocus hyemalis var. Foxi.—We have so few outdoor flowers in December that it is a pleasure indeed to go out into the garden and find a Crocus or two in bloom. A day or two ago,

When going among my flowers on one of the few dry times we have had, I came across a small patch of *Crocus hyemalis* var. Foxi in a place where I had some seedlings from seed bought in Italy. It was quite a treat to come thus unexpectedly upon these little flowers, even though there was not enough sun to persuade them to open. I confess that I lost little time in opening the segments with my fingers to see that it was really this little *Crocus*, whose dark chocolate, almost black, anthers look so well in association with the white of the segments and the finely-divided stigmata. It is a favourite *Crocus* with me, not only because it blooms when there is hardly anything else but for its beauty. It cannot hope to rival in size the great flowers of the Dutch *Crocuses*, which, one often thinks, have made it difficult for many who worship size in flowers to appreciate the more delicate loveliness of such things as Fox's Winter *Crocus*. It is certainly not showy, but is very pleasing, with its white segments with their purple lines or graining. It is rather difficult to understand why this variety is more easily obtainable than the typical form of Maw and other authorities. I have ordered *C. hyemalis* several times, so that I might obtain the type, but have invariably got Fox's variety. The type, which has orange anthers, is said to be very abundant about Jerusalem, and to be quite common in Southern Palestine, besides extending as far north as Damascus. I owe my first introduction to Fox's *Crocus* to a note from Mr. Burbidge which appeared in *THE GARDEN* a good many years ago. I grow it in the open, but a cold frame is, perhaps, preferable for flowers which bloom at this season. A sheet of glass overhead at the blooming time will, however, be sufficient protection to it, if a place where it does not get much wind is chosen. Some grow it in pots, but those who like to grow their flowers in the open will enjoy it better in the garden.—S. ARNOTT, *Carsethorn*, December 10.

THE ROSE GARDEN.

ROSES FOR OPEN SPACES.

AN enthusiastic rosarian is not content merely to plant for his own enjoyment, but will endeavour to assist his neighbours by advice or in other ways. I met with an instance last summer that struck me as being an excellent method of popularising Roses. As is well known, one of our most ardent amateurs, Mr. Gurney Fowler, dwells at Woodford, near Epping Forest. Although an enthusiastic Orchid grower, Mr. Fowler evidently has a great fondness for Roses, judging from the fine beds at Glebelands, and he knows how to produce good show blooms too. But it was in reference to a plot of land adjacent to the public road that I wished to say a word or two. Here I found some pretty beds of Tea Roses, and also a very fine mass of Crimson Rambler that had been pegged down with great skill. I was informed that Mr. Fowler had caused all these Roses to be planted in this public plot, and I could not help thinking that it was a commendable act worthy of being emulated. How many such plots there are in our suburbs that would be beautified by beds of the glorious Tea and Monthly Roses. Even if one grows plenty of Roses in one's own garden it is pleasant and refreshing to meet with them near the highways, and how much more would it cheer the heart of the toilers. When these plots come under the charge of the local authorities, that is, or should be, sufficient guarantee that they will be well cared for; but it needs the advice of a successful grower to ensure the plantations becoming a success. It is not always the fault of the atmosphere that Roses do not succeed near large towns and cities. What is wanted is good soil, and if it is not present import it. A cartload or two of good maiden loam will achieve most wonderful results, especially when the drainage is also put right.

The large bed of Rose Crimson Rambler must have presented a gorgeous picture when in full

bloom. It is rarely one meets with it pegged down; but it is useful in so many ways that one is not surprised to find it thus employed. The new growths were allowed to grow in their natural manner, and were supported by their canes. These gave the bed a less formal appearance, and the bright foliage was very welcome towering above so much colour.

Mr. Fowler is evidently a believer in pegging down certain Roses. He has at Glebelands a fine bed each of Gustave Regis, Alister Stella Grey, Mme. Laurette Messimy, and others. At the time of my visit they had produced their first crop of blossom, but the new growths from the base of the plants were suffered to grow upright, and they were for the most part crowned with buds and just about to expand. This year doubtless the best of this new wood will replace some of the oldest of the pegged-down growths.

If this hint may induce any rosarian to offer some plants to the local authorities for certain conspicuous sites I would recommend that such be of a free-flowering character. What a delightful feature would be beds of Marie Van Houtte, G. Nabonnand, Grüss an Teplitz, Viscountess Folkestone, Laurette Messimy, Enchantress, Caroline Testout, Mrs. John Laing, Ann E. Gifford, Yvonne Gravier, &c., and they would, perhaps, induce many to plant such Roses more freely in their own spacious grounds or maybe humble allotment plot.

PHILOMEL.

NOTES FROM IRELAND.

THE abnormal mildness of the winter we are just passing through is a matter at once absorbing the attention and arousing the fears of many horticulturists on this side of the Channel. Vegetation of all kinds is dangerously active, inasmuch as a severe or protracted spell of frost later on would be certainly more disastrous in its effects than would be the case under ordinary circumstances. The unusually heavy rainfall of the past season, and the subsequent humidity of the atmosphere, have resulted in an undue amount of activity in vegetation, and it is with some apprehension the opening month of the new century is looked forward to by gardeners generally. In more than one garden visited by me within the past few days the most abundant evidences of the exceptional mildness of the season were provided. Outdoor fruit trees, particularly Peaches, are as forward in the state of the buds as one would expect to find them at the end of February. Roses, especially Chinas and Hybrid Chinas, are in many cases still in full bloom, and in the mixed borders many a flower still lingers to tell us in its sweet, silent way of the glories of summer.

Garden Roses.—It is pleasing to notice the rapid strides the beautiful semi-wild Roses are making in popular favour. In every garden of taste arches, pillars, or pergolas are to be found artistically draped with these lovely single, semi-double, or cluster Roses. The prettiest sight I have witnessed for a long time was a large hedge of the old pink China or monthly Rose in full bloom on Christmas Day in the gardens of Mr. J. Hatchell, at Fortfield, Terenure, near Dublin. These gardens are in an exceptionally sheltered position at the foot of the Dublin mountains, and contain a variety of interesting plants, and on the date mentioned Campanulas, Primroses, and many other spring flowers were fairly plentiful in the open, the lawn being conspicuous by its sheet of Daisies, which were sufficiently numerous to give one the idea of a bright day in spring instead of Christmas Day.

Prunus miquelliana.—I was delighted to see a spray of this pretty flowering Cherry in full bloom the other day with Mr. Burbidge, to whom it had been sent by Mr. T. Smith of Newry. The flowers resemble those of the Weeping Chinese Cherry (*P. pendula*), opening pure white and dying off blush or pale pink. This novelty should become popular in consequence of its extreme earliness.

Hamelis arborea.—This is an exceedingly curious and pretty flowering shrub at present in flower in the College Gardens. The petals are of

a clear golden yellow, curiously twisted and crumpled like bits of gold wire, and the calyx is of a deep claret colour, forming a striking contrast. It is quite hardy and most beautiful as a specimen bush, its myriads of golden spider-like flowers rendering it an attractive and desirable subject.

Diospyros Kaki.—The first ripe fruit of this Japanese novelty coming under my notice was shown to me the other day. It grew in the gardens of Dr. F. Trouton, at Caerleon, Killiney, and is possibly the first fruit produced in Ireland. In colour and shape it closely resembles a Tomato, the base being covered by a thick leathery four-lobed calyx. The fruit divides into four or eight parts, each of which contains a stone resembling that of a Plum. The flavour is said to be somewhat like that of an Apricot. I have heard that this novelty has fruited in another garden in the neighbourhood of Dublin, but I have no proof of the fact. It is extremely doubtful whether this addition to our list of fruits will ever pass the stage of a botanical curiosity.

Castanopsis chrysophylla.—Mr. Gumbleton may well be proud of his specimen of this charming golden-leaved Californian Chestnut, which owes its specific name to the circumstance of the undersides of the leaves being as brightly golden as the back of a *Gymnogramma* frond. The burs are rich brown and resemble those of the Spanish Chestnut in outline. This is certainly a most desirable tree, and only requires to be known to be appreciated.

Elagnus macrophylla.—Amongst the large climbers adorning the walls of Trinity College Gardens a particularly fine specimen of this graceful shrub is noticeable. Its flowers are faintly fragrant and are rather inconspicuous, the great attractiveness of the plant being its handsome leaves, the under sides of which are covered with a metallic-looking coating resembling quicksilver.

Osmanthus ilicifolius.—This is a very pretty, dense-growing bush, and is at present covered with pure white flowers which are deliciously fragrant. It is seldom seen, but is eminently worthy of a place in every choice collection. I only know of two or three specimens in the neighbourhood of Dublin.

Garrya elliptica.—At this season of the year there are few things prettier than the tassel bush. It is very popular as a wall shrub, and is equally effective as a specimen bush planted in the grass. The finest specimen in Ireland, and, according to Nicholson, the finest in Europe, is in the College Gardens here. It is 20 feet high and 30 feet through, and is at present one mass of pale green pendulous tassels.

The Glastonbury Thorn.—Before leaving these charming gardens we must mention this curious Thorn now in full bloom. Mr. Burbidge informed me that this identical plant was brought from Glastonbury, where it had been growing in the verger's garden. It is certainly curious to see a Hawthorn tree in full leaf and flower on Christmas Day.

Pinus Pinea.—Another curiosity of the College Gardens is the fine old stone Pine, said to be the finest in Great Britain. This specimen was planted in 1810, and is certainly a venerable-looking representative of the Italian Pine.

The new century was ushered in by bright genial spring-like weather, the opening day being more like a bright sunny day in April than New Year's Day. It is surely not rash to hope that this bright beginning may be an omen that the sunshine of prosperity will continue to shed its beneficent rays over the pathway of horticulture in the century now opened before us. T. SHAW.

THE MILDNESS OF THE SEASON.

THE opening day of the century was noteworthy here in regard to horticulture. Owing to the mild weather I gathered a beautiful basket of hardy flowers, containing fifty-three species and varieties, as follows: *Achillea aurea*,

A. millefolia, *Anemone blanda*, *A. coronaria*, *A. fulgens*, *Arabis albidia*, fl.-pl., *A. bellidifolia*, *Bellis perennis*, fl.-pl., *Borago officinalis*, *Barberis Darwini*, *B. japonica*, *Calendula officinalis*, *Carnation Miss Audrey Campbell*, *Cheiranthus Cheiri* and *Sutton's Phoenix*, *Chimonanthus fragrans*, *Crocus Imperati*, *Chrysanthemum indicum Golden Gem*, *Florence Davis*, and three other varieties, *C. frutescens*, *C. frutescens latifolia*, *Daphne Mezereum*, *Escallonia punctata*, *Erica carnea*, *E. carnea alba*, *E. stricta*, *E. vagans*, *Gentiana acaulis*, *Geum miniatum*, *Helleborus niger*, *H. orientalis*, *Jasminum nudiflorum*, *Lonicera fragrantissima*, *Leptospermum scoparium*, *Myosotis dissitiflora*, *Othonna cheirifolia*, *Polyanthus* in variety, *Phlox amoena*, *Rosemarinus officinalis*, *Rose*, *Tea*, *Mme. Lambard*, *R. Crimson China*, *R. Souvenir de la Malmaison*, *Rhododendron nobleanum*, *R. Jacksoni*, *Spirea Thunbergi*, *Strawberry half-grown fruit of Vicomtesse H. de Thury*, *Veronica longifolia alba*, *Viola odorata*, *V.o. alba*, *V.o. flore-pleno*, *V. tricolor* many varieties, *Viburnum Tinus*, *Vinca minor*, and *Ulex europæus*.

To the above list *Magnolia grandiflora* might almost be added; one flower on the Castle walls is very large, but the sun heat is not enough to open it. The wild Honeysuckle or Woodbine shows the mildness of the time more than many of the above. It has made new shoots upwards of an inch in length. These gardens are more favourably situated than many, being on the south side of a hill which is upwards of 460 feet above the sea level, and has a sharp fall of 100 feet to 200 feet. They also receive additional shelter from tall, deciduous, and evergreen trees. Many tender plants have been introduced from the South of Europe and other places which would not succeed if they were fully exposed.

W. H. DIVERS, F.R.H.S., in the *Times*.
Belvoir Castle Gardens, Grantham.

SHORT STUDIES IN PLANT LIFE.—II.

SUBTERRANEAN STRUCTURES AND WHAT THEY ARE DOING.

Young bulbils and cormlets, unlike tree-buds which are nourished through the stem and branches, are destined to live an independent life; so Nature has provided them with a quantity of reserve food materials, either in the swollen stem, as of corms and tubers, or in the leaf-scales, as of bulbils.

As the parent bulbils, &c., decay, the young ones have something to do before their leaves appear above ground. Or, suppose we had planted our *Crocuses*, &c., in September, and, perhaps, not quite at the proper depth—because all such subterranean structures appear to affect particular horizons underground—then they have to make their way down. This is done in two ways at least, and a *Crocus* and a *Colchicum* will illustrate the two methods.

They first of all make roots, which spread out from the base of the corms or tubers, &c. In the *Crocus* it will be found that while the old corm has decayed the young ones were produced on the top of it, so that if there were no means of pulling them down, in a few years they would be out of the ground. But one root at least—in other plants there are more—is much larger than the rest, which are slender and act as absorbing roots, taking up water and mineral matters dissolved in it. The larger sub-fleshy root grows straight down, sometimes penetrating the parent corm, and soon shows a wrinkled surface. This is due to a longitudinal contraction, which pulls the young corm down to the level of the old one.

In the *Colchicum*, of a plant of many years growth in one place, the new corm appears as a bud at the bottom and side of the old one. It develops into a corm on the same level; but

if it has been planted too high the bud now points downwards and not horizontally, so that the young corm finds itself a little below the level of the parent corm. The same thing occurs in the following years until the proper depth is reached.

We thus see that the *Colchicum* is independent of contractile roots required by other bulbils, &c. The next thing bulbils have to think about before the spring comes is to be ready to consume the reserve food materials upon which they live till leaves are produced.

Now, it has been noticed that some bulbils, &c., and seeds refuse to grow till after a period of rest, though the temperature may be sufficiently high. The cause appears to be that it has not had time to produce the necessary "ferments" which are required to render the food soluble and assimilable. Some are solid, as starch, cellulose, and the nitrogenous aleurone grains; others are liquid, as oil, and even contain kinds of sugar; but they must be changed in

in autumn and winter as they deserve to be. They were brought to my notice by Mr. L. T. Davis, Ogle's Grove Nursery, Hillsborough, in 1878, and as I was at that time editing the *Floral Magazine* I was able to give a coloured illustration of some of the most striking forms. Between 1878 and 1882 the floral committee of the Royal Horticultural Society awarded no less than seven first-class certificates, selecting the following varieties for the purpose: *P. alba*, *carnea nana*, *lilacina macrocarpa*, *nigra major*, *rosea purpurea*, and *sanguinea*. Mr. Wilson states truly that there are "ten or a dozen quite distinct shades of colouring, from white through tenderest pink, white and rosy pink, the colours then reaching to a soft scarlet, and ending with a dark blood-red, reminding one of the seeds of the Pomegranate." Mr. Wilson also calls attention to the differences in the size of the berries, and also to the variations in the foliage, particulars which impart additional interest to this useful group of plants.



PERNETTYA MUCRONATA IN FRUIT.

character before they can be taken up. To do this, Nature has endowed the plant to secrete ferments, just as occur in our own digestive canal; for we, too, consume these same things in our vegetable diet.

The use to plants of corms, &c., is to tide over winter or dry seasons. This is why so many are found in South Africa, for there these bulbous plants can aestivate, while in this country they hibernate. In the hot deserts there are some bulbous plants, but to resist the intense heat of the sand they make the outer coat as hard as wood, thereby preventing desiccation from the heat.

GEORGE HENSLOW.

THE PERNETTYAS.

MR. G. F. WILSON does well to call attention to the value of the improved varieties of *Pernettya* introduced from Ireland some years ago, and which, with few exceptions, are not nearly so much employed in garden decoration

Some fifty or so years ago Mr. Davis commenced his experiments with such forms of the *Pernettya* as were then in cultivation, and he selected as his first seed parent *P. angustifolia*, a native of China, a densely-branched, narrow-leaved evergreen shrub, growing to a height of about 3 feet. The fruit of this species is light pink in colour. It is a very effective subject, thriving well under the shade of trees, but in such a position does not, as might be expected, flower so freely as when grown in the open. *P. mucronata*, the type, was introduced from Cape Horn in 1828, and bears reddish-tinted fruits. Regarding *P. angustifolia*, as the hardiest of the two, Mr. Davis made this the first seed-bearing parent, and found the seedlings from it to vary considerably in the character of the foliage and colour of the fruit. This encouraged him to take seed from the best of his seedlings, and from it obtained the fine varieties to which Mr. Wilson makes allusion. It is difficult to over-estimate their value as berry-bearing plants in autumn.

During the past autumn there could be seen at Gunnersbury Park, Acton, a large bed of these Pernettyas. They had bloomed freely, and heaped up their fruits in happy profusion; indeed, so freely did some of them fruit that the branches were borne down to the ground by the weight of the fruit clustered about them. The plants made a very free growth, and in consequence became so crowded that the beauty of the individuals became lost in the mass. It is Mr. Reynolds' intention to make a fresh bed, giving the plants more room, so that the wealth of fruits they produce might display itself.

The Pernettyas develop their pure white bell-shaped blossoms during May and June, and fertilisation is always complete, as dense clusters of berries follow. The plants are not fastidious as to soil. Mr. Reynolds plants them in good fibry loam, with which is mingled some peat, and this appears to be an ideal compost. To crowd the plants is a mistake, as when they form a copse-like growth much of their beauty is lost.

Occasionally Messrs. W. Cutbush and Son, of the Highgate Nurseries, will exhibit during November plants of these Pernettyas in pots—dwarf, compact, and well berried, quite model plants for conservatory decoration in winter. Under glass the brilliant fruit would not be subject to those influences which in the open air so greatly tarnish its beauty, and consequently their decorative value would be so much more lasting. It would not be necessary to keep the plants permanently in pots; they could be planted out, and then lifted from the nursery bed as soon as the fruit is formed, or when ripe. Young plants can be obtained by division or by means of layers, and they can be planted out to grow into size for potting.

R. DEAN.

INDOOR GARDEN.

SALVIA SPLENDENS GRANDIFLORA.

EXTENSIVELY grown as this improved variety of *Salvia splendens* is for producing a late quantity of bright blooms under glass, its usefulness for that purpose is now assured, but regarding its employment for the embellishment of our flower borders and shrubberies I question if as yet it has been utilised to any great extent, hence my penning this note, in the hope that it will induce many to grow it abundantly as a border plant, &c., in the coming season. Admiring its free-blooming character and brilliancy of colouring under glass, I thought it might prove equally effective for late autumn display in the open, my only fear being that it would prove too late blooming to be at its best ere frost cut it down. However, I decided to give it a trial, and have had no cause to regret having done so; on the contrary, the results in all cases were satisfactory.

Of the hundreds propagated by cuttings and a few from seeds planted (after the usual hardening off) in various positions all came into bloom with September, and remained so until cut by frost, which was unusually late in making its appearance this season—towards the end of November. The intense scarlet spikes produced the brightest effect at that dull season of anything on this place. As already stated, this *Salvia* was planted in various positions and in divers combinations, as well as in groups by themselves, all being more or less satisfactory, but the main experiment, where the most plants were employed and where the most telling effect was aimed at, was in a "pocket" on one of our rocks in a prominent position some distance from and below the house, and in full view of the main windows. This pocket is planted with a large number of fine Azaleas (Ghent and mollis), as much for the autumnal colouring of their leafage as for their beautiful early summer bloom. To produce continuous blooming from spring to latest autumn Lilies, Gladioli, Begonias, and many

perennials are freely intermixed with the Azaleas, &c., and in association with these several hundreds of this *Salvia* were put in, with an occasional plant of white Marguerite introduced amongst them. The effect produced was much admired, especially so late in the year.

Personally, I was somewhat disappointed with the Marguerite in this arrangement, the blooming not being sufficiently free, and lacking in boldness; too much greenery, probably accounted for by the larder provided, for to sustain such divers subjects in good growth and flowering condition necessitates liberal treatment.

As in this case white bloom is essential in the mixture, I shall be greatly obliged if any correspondents will kindly recommend me a white flowering plant to replace the Marguerite, say, any early-blooming Chrysanthemum, a bold, upstanding variety in growth and bloom, and warranted to withstand a copious rainfall.

J. R.

STRELITZIA REGINÆ.

For upwards of a century and a quarter the Bird of Paradise Flower, as this plant is popularly called, has been in cultivation in European gardens, yet it is still rare. The reason why it is not more often seen is difficult to conjecture, for its flowers are among the most gorgeous of the many brilliant coloured ones peculiar to South African plants, and, in addition, the foliage is decidedly ornamental. It may be grown either as a pot or border plant, but is more at home treated in the latter manner. Planted in loamy soil in an intermediate temperature the handsome glaucous-green leaves attain a height of 3½ feet, the blades often being 2 feet long and 7 inches wide. The flowers, like those of many other members of the N. O. Scitamineæ, are curiously formed. In this case they bear some fancied resemblance to a bird, hence the popular name. They are borne in short, dense, one-sided spikes on long scapes well above the leaves, and are orange and dark blue in colour, a combination rarely seen in flowers. The individual blooms remain in good condition for several weeks if not placed in too high a temperature, so that a plant bearing several spikes of flowers often lasts for two or three months. Several varieties are in cultivation, the most distinct being *S. r. citrina*, having lemon-coloured perianth segments instead of orange, and *S. r. ovata*, with smaller oval leaves.

D. K.

SUMMER TREATMENT OF CALLAS.

OPINIONS differ as to the best way of treating Callas in summer, some advising planting them out in the open, and others keeping them in pots. I adopted the former plan for many years, but cannot say that the results were quite satisfactory. The plants grew vigorously, but many of the roots were torn off or injured during the lifting process in autumn, no matter how carefully it was performed, the result being a severe check to the plants. Moreover, the plants did not flower freely till spring. Eventually, however, I saw an article on Callas in *THE GARDEN* by Mr. Jenkins, of Hampton, in which he recommended keeping the plants in pots all the year round, and resting them for two months in summer by laying them on their side and withholding water. I took the hint and do not regret it, as treated thus they flower freely from early autumn till spring. The plants are repotted in August in 9-inch pots, a little of the old soil being removed from the roots. A large number of them can then be accommodated in a small space. When planted out they make a lot of roots, and large pots are necessary. Good loamy soil three parts and one part rotten manure and road grit or coarse sand forms a suitable compost. Callas require liberal feeding with liquid manure.

C.

"IN A SMALL WAY."

NOTES FROM AN OBLONG GARDEN.—XVIII.

"The greatest of all blessings," said Haydon, the painter, "is to have one's own way." To which he might have added, "and to have it

without paying for it." This exquisite concatenation of circumstance is of the rarest in our existence mundane, therefore it is worth placing on record that it has occurred in connection with the Oblong. For some time past I have been wishing to raise the level of the side borders, but the idea of the cost and difficulty of getting loam up the side of our residential (mild) precipice deterred me. On going to see my little bit of hired reserve across the road, where my German Pansies are in a fresh and spring-like blow, exquisitely un-Novembrian, the other day, however, its owner offered it to me, not only in tenure but in entire possession, provided I would take it bodily away. It was first, and from time to time, a dumping ground for potting soil, leaf-mould, and burnt stuff, and between whiles a hen-run, wherefrom it may be deduced that in bulk it is worth having. The stalwart development of my Pansies speaks loudly in its favour, and I rejoice fervently to see it spread some inches thick over my wan and shrunken shady border. Box edging always seems to have a certain hungry effect upon the soil near it, sucking and consuming it until it sinks in. Whether it actually eats it or not I should not like to say, but I am persuaded in my own mind that there are plants which do this. They are those which hide hollows round their stems with big spreads of leafage.

There is a good deal of advice floating about which does not prove a very efficient guide when we come to practicalities. In some paper addressed to the unlearned I came across a strong recommendation of *Mysotis Rechsteineri* as a surface bedder for bulbs, and thought it was just the thing for the centre bed in my small front plot, which, by the way, I have had gravelled round and converted into a stiff little Dutch garden, for grass there seemed impossible; but on further investigation I found that most of my catalogues did not even mention the little Forget-me-not, and after much searching it was discovered in the Newry pamphlet at 9d. a root. For my little 3-feet bed this works out at between 20s. and 30s., for which expenditure I could certainly find a more desirable return. It would buy two dozen Roses to begin with. There are also a few persistent mistakes which one is always meeting, and which are very aggravating. One of these is the misnomer "*Gruss au Teplitz*," which people, who really ought to know better, allow to take the place of the Rose's properly-conjoined name in its native language. Certainly one needs to be something of a linguist to tackle Roses nowadays; but then Press readers are supposed to know everything. I have often been much moved mirthwards by the strenuous efforts of gardeners and nurserymen's assistants when such mouthfuls as Mme. Chédane Guinoisseau and Grossherzogin Victoria Melita rolled marvellously from their overpowered tongues. Good simple Bessie Brown, why have we not more like unto thee? Thou art a Rose as fair as any by a Teutonic title.

The rain has been raining every day, and, it would seem, for many weeks past. The gravel paths of the Oblong are all greened over, masses of soaked fallen leaves are everywhere, and sloppy disorder reigns supreme. It is impossible for anyone with the average human tendency towards cold-catching to work out of doors, so for want of other occupation I have pulled down the back staging in my little greenhouse and am putting in some climbing Roses against the wall in its place. The range of choice is so wide that decision becomes difficult. At last I cast the lot, and it fell on Pink Perle des Jardins and Papa Gontier, and

I am also planting a *Clanthus puniceus*, for love of its quaint lobster claws, and because no very close neighbour has it, so it has not become hackneyed. At present my seventeen 9-inch pots of *Chrysanthemums* are sweetly gay. They have been grown with complete disregard to and ignorance of the proprieties of bud securing and proper regulations, but have had plenty of attention as to staking, tying, and watering. Since the beginning of August they have had alternate waterings with a weak infusion of cow manure, and one of Clay's fertiliser; they stood along the side of one of the gravel paths in the Oblong in a sheltered position until the middle of October, and since then they have been really pretty in the greenhouse. They are well clothed with foliage quite down to the pots and have plenty of blossoms—not, I suppose, at all what they should be from a professional point of view, but yet of good size in most cases. I got the Japanese varieties quite at random, tempted by their descriptions, and this being the first year I have tried *Chrysanthemums* for myself (having previously bought a few each autumn) I had no knowledge of their little ways. But I am now convinced that they are good utter amateurs' flowers, and for amateur growing need not be surrounded with so many injunctions as are generally connected with them. Of the singles I tried, the pleasure has been a good deal spoilt by the discovery that their labels are hopelessly mixed; I think this must be due to the garden boy, as Adam strenuously denies having taken any interest in them. One is a splendid large flower of a glowing Indian red or rosy terra-cotta, with a broad and beaming yellow eye, about 3 feet high, with shorter shoots all bearing quantities of bloom; this is a real gem, and has been much admired; it is novel and striking and unique in colour. Then there is a very charming pinky white, whose petal rays are just faintly turned backwards at the tips; it has big blooms, and flowers in solid clusters. Then there is a good greeny white which I think can only be *Niphetos*. All the three yellows I had are poor little things as flowers go, and evidently unsuited to be naturally grown—even as little bush plants covered with bloom I do not think I should care for them; their blooms recall *Anthemis tinctoria*. A pink is of the same character and quality. My nicest Japs are *Phœbus*, brilliant yellow; *Ma Perfection*, *Niveus*, and *Emily Silsbury*, white; and *G. C. Schwabe* and *Vivand Morel*, pink. In the little house there is a white *Plumbago* with which I have wrestled unceasingly, but which has beaten me all along the line so far. I "went by the book" and pruned it one year, as we are told to do; another year I left it to itself; result the same, a few blossoms in November. I thought this might be due to lack of sun, as it is not in the sunniest part of the house, and trained some of it along into the full glare; these branches have not flowered at all, but some of those in the shadiest corner are doing so now. Of course the cold snubs it unmercifully every year while it still has a few buds unopened green, but I should like to find out what want it has unsatisfied.

I wish somebody would take *Cosmos bipinnatus* in hand and cause it to have the same pretty flowers it has now with about one-fourth of the present amount of stalk and leafage. The flowers, when you get them, are really fascinating, and a bouquet of whites and the peculiarly pretty soft pink ones is charming, and lasts ever so much longer than one of the single *Dahlias*. A little of the green, all feathery and fresh, is also pretty, and the lateness of its flowering—mid-October and

onwards—does not signify; is, indeed, a virtue in these western parts. But it is too greedy and rampageous of stalk to be a general favourite, though it has great possibilities. How amiable are nurserymen as a race. I do not know any folk more obliging and less contemptuous of the "small way." I wished this year to try some of the *Narcissi* bulbs which, bought by the dozen, mount up in half-crowns and nice little steps of easy addition to a fair sum. Now experiments in Oblongs, as the proprietors of Oblongs probably all know very well, have not so much chance of success as those carried out in gardens of wider claims; I therefore intimated to the vendor that I should prefer, small as it made me feel, to buy in threes. Did he wither me with a glance, as I am sure the butcher would have done if I had asked for my mutton chops split in halves or one rib of beef at a time? Or did he suggest, with a scornful intonation, that I had better be content with a few dozens of *Von Sion*, and so on? No, he replied that he should be most happy, and took infinite pains to send a whole regiment of neat little paper bags containing humble trials of white Trumpets and Hoop Petticoats and other charmers of the elusive race. Association with flowers must certainly be stimulating to the better mental qualities just as living with the meat makes the butcher fat, apart from the eating of it.

Bathwick Hall, Bath.

M. L. W.

DENDROBIUM NOBILE AT SYDNEY.

THINKING it might interest your readers, and as an illustration of what we can do "down under," I have pleasure in sending you a photograph taken by an amateur of a fine pot of *Dendrobium nobile*. This Orchid came to me from Calcutta, and under the careful attention of my gardener, Mr. R. Kennedy, it produced this year no less than 173 fine blooms, and was grown *entirely without artificial heat* in a cool glass house. I have other East Indian Orchids flowering in the open bush-house, of which I could send you photographs if I thought they would be acceptable. I am a very appreciative reader of your admirable journal.

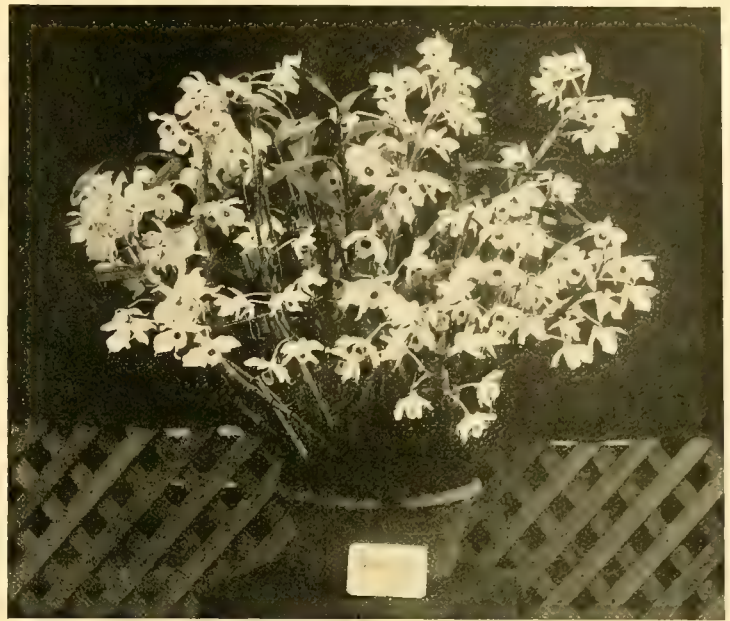
JAMES INGLIS.

Sydney, November 13, 1900.

RECENT PLANT PORTRAITS.

THE eighth part of *Icones selectæ horti Thenensis*, which concludes the first volume of this work, contains portraits of *Maytenus ilicifolia*, with foliage exactly resembling that of a Holly, and numerous small flowers produced in bunches all up the stem at the extremities of the shoots. It is a native of South Brazil and Uruguay. *Prunus Maackii* is a native of Manchuria.

Tristania conferta, also known as *T. subverticillata*, *T. macrophylla*, and *Lophostemon arbo-*



DENDROBIUM NOBILE. (From a photograph sent from Sydney, N.S.W.)

rescens, is a native of North Australia, Queensland, and New South Wales.

Burchellia bubalina, also known as *B. capensis*, *B. parviflora*, *B. Kraussi*, *B. capensis* var. *parviflora*, *Lonicera bubalina*, and *Cephalis bubalina*, is a native of South-Eastern Africa, and is figured on plate 2,339 of vol. xlix. of the *Botanical Magazine*.

Leucothoe recurva, or *Andromeda recurva*, a native of North America, has racemes of small white tubular flowers, and requires peat soil.

The second number of the *Revue Horticole* for December has a portrait of a new and very interesting half-hardy hybrid flowering shrub named *Raphiolepis Delacouri*. It has large bunches of pretty rosy white flowers. It was obtained by M. Delacour, of Cannes, by crossing *Raphiolepis* or *Photinia indica* with *R. ovata*, which is much better known in our shrubberies, and is almost hardy.

The first number of vol. xvi. of *Lindenia* contains portraits of the following four Orchids:

Cattleya Elisabethæ.—A most beautiful variety with deep rosy purple sepals and a beautifully fringed lip of a deeper shade of carmine tipped with pure white.

Odontoglossum crispum var. *auriferum*.—A lovely pure white-flowered variety, with three out of five petals distinctly spotted with gold and a golden-veined lip.

Lælia-cattleya Alberti.—A pretty pure white-flowered variety with a lip distinctly veined with rose-colour, very chaste and beautiful.

Cypripedium drapsianum.—An exceedingly large-flowered and handsome variety named after M. Draps-Dom. It is the result of a cross between the Burford Lodge variety of *C. lecanium* and *C. villosum*.

The first part of the *Revue Horticole* for January contains a portrait of *Rosa wichuriana rubra*, a small single flower of no great merit or beauty. There is also a woodcut of a presumably new variety of *Illicium* named *I. laurifolium*, found by M. André in a nursery garden at Nice. He says it is a handsome free-blooming shrub with bunches of creamy white flowers in the way of *I. religiosum*, but quite distinct from that well-known variety.

The January number of the *Revue de l'Horticulture Belge* contains portraits of *Senecio petasites*, a handsome velvety-leaved shrubby composite with large bunches of small yellow flowers, and *Salvia Ingénieur Clavenad*, a very handsome form of the old *S. splendens grandiflora*, bearing long spikes of brilliant scarlet flowers.

The *Botanical Magazine* for January contains portraits of *Hibiscus Manihot*, a native of China

and Japan, also known as *H. palmatus*, *H. pagy-rifrus*, *H. pentaphyllus*, *H. pungens*, *Bamia Manihot*, *Abelmoschus Manihot*, *Ketmia fol. Manihot*, and *Alcea fol. Manihot*. It is a very beautiful plant, producing large pale yellow flowers with a fine dark claret centre. Planted out in the border of the Mexican or warm part of the temperate house at Kew it made during the three summer months shoots 9 feet high, flowered for two consecutive months, and ripened seed.

Lhotskia 'ericoides, a native of King George's Sound, also known as *L. scabra* and *L. hirta*. A small white-flowered Myrtaceous shrub introduced by seed from Australia, and flowering in a cool house when about 2 feet high.

Sarcochilus lilacinus, native of the Malayan Peninsula and Islands, also known as *Dendrocolla amplexicaulis*, *Ærides amplexicaule*, *Orsidice amplexicaulis* and *lilacinus*, and *Thrixspermum amplexicaule*. This is a small-flowered Orchid growing in swamps, with rosy purple flowers, which last but one day each.

Pyrus Tianshanica, a native of Central Asia, also known as *P. Thianshanica* and *Sorbus Tianshanica*, a fine large-flowered form of Mountain Ash, which, coming from so different a climate, is apparently as hardy as the common *P. aucuparia*. It was obtained from Messrs. Trauson, of Orleans, and flowered and fruited in the arboretum at Kew during the summer of last year. *Allium ostrowskianum*, a native of Western Turkestan, a handsome Garlic with showy, bright, rose-coloured flowers. It flowers annually in the open border at Kew in the month of June. W. E. GUMBLETON.

WALLFLOWERS.

Two beautiful Wallflowers that should be more grown are Eastern Queen, of a good pink colour—a bed of it looks just like Apple blossom—and Vulcan, a dwarf plant with large lustrous crimson velvet flowers. Wallflowers grow splendidly if sown as follows: Put the seed out on a saucer, pick out each seed separately and sow them an inch apart. It takes time and patience, but it saves all thinning, and the fat little plants come up as sturdy as well-nursed babies, and never deteriorate. Wallflowers enjoy a good soil, although they can do without it.

Clontarf, Dublin.

M. A. C.

AN ARTIST'S NOTE-BOOK.

VALLOTA PURPUREA.

EACH season various notes on this beautiful bulbous plant appear, but it cannot be overpraised when the beauty of its blossoms and its simple cultural requirements are taken into consideration. This latter remark applies to the old-fashioned Vallota of our gardens, for of late immense numbers have been sent annually to this country from South Africa, and they frequently fail to become established in a satisfactory manner. These imported bulbs usually reach here in a dormant state in July or August, when they should be at once potted and kept cool and fairly dry during the winter. Then, owing to the change of seasons, many of them will push up flower-spikes about the month of May following. Some years ago at the Temple show there were some well-flowered examples of Vallota. These imported bulbs frequently decay from what appears to be an excess of moisture, however dry they



SCABROBOROUGH LILY (VALLOTA PURPUREA).

(From a drawing by Miss Alice West.)

a less extent in the shape of the flower, some having much broader segments than others, and consequently a far rounder flower is the result. Some, too, are very rich in colour; others have rather a conspicuous white or whitish centre, while blossoms of a pink or salmon-pink tint often occur among them, and one occasionally hears of a pure white variety. Vallotas are easily raised from seed, and if the young plants are dibbled into a bed of prepared soil and covered with a frame they will make more progress than if confined in pots during their early stages. A. P.

PHORMIUM TENAX.

THIS handsome New Zealand plant is very largely grown in the south-west, where in most seasons it flowers abundantly. The variegated

form alluded to by Mr. Ewbank (page 428) is also common and attains large dimensions, one splendid specimen that I know of, which is growing on a sloping wall, producing leaves exceeding 7 feet in length, while its

may be kept. Perhaps this tendency is to a certain extent generated by being confined in a close box during the journey to this country. bloom spikes, of which it bore twenty during the past summer, reached a height of close upon 10 feet. One drawback to the variegated

form, however, is that in deep rich soil, where it grows with great luxuriance, it, often partially and in some cases almost entirely, loses its variegation after it has assumed its fullest proportions. In the instance above mentioned there is but slight indication of variegation observable in the foliage, though at the time of planting this variegation was most distinct. In poor soils the variegation appears to be more persistent; but this, I think, is the case with most variegated plants, which retain their character best when not too highly nourished.

South Devon.

S. W. F.

TREES AND SHRUBS.

WEeping WILLOWS.

MANY Willows, especially those with pendulous or weeping branches, have an almost unique value in the garden landscape. Among our hardy trees there is, perhaps, only the white Birch that possesses their peculiar type of elegance in like degree. Neither are the grey, moving tints of the White Willow and its allies, when clothed with their loose drapery of leafy growth, to be exactly matched amongst our hardy trees, either native or introduced.

The most characteristic of all the Weeping Willows is *Salix babylonica*, an example of which (one of several growing on the banks of the lake at Kew) is here figured in its winter state. The Babylonian Willow seems to have been grown in Britain early in the eighteenth century. A Mr. Vernon, a merchant at Aleppo, grew the first specimen at Twickenham Park. This he had brought from the river Euphrates; so, at any rate, says old Peter Collinson, the London draper and plant lover who saw Mr. Vernon's tree in 1748. The species does not ever appear to have been found in a truly indigenous state. It has for centuries been cultivated in the east, and is considered to be most likely a native of China. The poet Pope, also a resident at Twickenham, was at one time credited with having been the means of securing it for English gardens. He is said to have noticed that some of the twigs of which a basket recently arrived from Spain was made were alive, and, having had one rooted, it turned out to be *Salix babylonica*. Whatever truth there may be in these stories, it is certain that this Willow is still abundant about Twickenham and farther up the Thames, where fine specimens add greatly to the charm of the river. It is essentially a tree for the water-side, not only in regard to satisfying its love of moisture, but also because its soft, flowing masses of foliage and graceful lines are there seen to the best advantage. Its narrow, pointed leaves, averaging 3 inches to 4 inches in length, are bright green above and of a bluish, glaucous tint beneath. From all the forms of the White Willow (*Salix alba*), some

of which are almost as pendulous as it is, *Salix babylonica* differs in the absence of silky hairs beneath the leaf. Nearly all the plants of this species in cultivation are female. There is a curious variety of *Salix babylonica* called *S. annularis* (or *crispa*), the leaves of which are curled in rings or spirals. It is only worth growing as a curiosity.

Salix alba—the British White Willow—has two weeping varieties, viz., *S. cœrulea pendula* and *S. vitellina pendula*. The common type plant is itself a beautiful tree in colour and form; in these varieties the pendulous character of the branches is more pronounced. In *S. vitellina pendula* (a weeping form of the "Golden Osier") the beauty of the tree in winter is enhanced by the bright yellow twigs of the preceding summer.

Salix Salomoni is probably a hybrid between *S. alba* and *S. babylonica*. It is of sturdier

cuttings, and should never be grafted on stocks of other species. They attain to heights varying from 30 feet to 60 feet, and, although their pendulous habit is so marked, they grow in height naturally and without tying up or other artificial aid. Planted by water they make handsome trees in a very few years.

There is a further group of Weeping Willows which are mere products of the garden, being really low-growing or even prostrate shrubs made into small trees by grafting on standards of stronger sorts. Amongst them are: *S. purpurea pendula* (the so-called "American" Weeping Willow, although exclusively an Old World plant); *Scharfenbergensis*, also a variety of *S. purpurea*; the Kilmarnock Willow, a weeping form of the Goat Willow; *Zabeli pendula*, a variety of *S. cœsia*; and the silver-leaved form of *S. repens*. They may be left for more detailed account in a future paper.



THE WINTER EFFECT OF THE BABYLONIAN WILLOW (*SALIX BABYLONICA*) AT KEW.

growth than the latter, and is not so pendulous as it or the varieties of *S. alba* just mentioned are. The leaves are about 4 inches long, blue-green beneath, and hairy as in *S. alba*. This is a very vigorous, free-growing, and handsome Willow.

Salix elegantissima and *S. blanda* are two Willows thought to be hybrids between *S. fragilis* (a British species) and *S. babylonica*. They show the influence of the British species in the broader, more glossy leaves, in the more sturdy habit, and in a greater hardiness than *S. babylonica* possesses. Both can be grown on parts of the Continent, where the Babylonian Willow is incapable of withstanding the winter cold. These two trees naturally bear a good deal of resemblance to each other, but *S. blanda* has bigger leaves and a rather less pendulous habit than the other, and is altogether a nearer approach to *S. fragilis*, *S. elegantissima* tending towards *S. babylonica*.

All these trees are easily struck from

In any case they have not the importance of the sorts described above, which are the ones to plant when the object is to enhance or add to the main features of the garden or landscape.

Arboretum, Kew.

W. J. BEAN.

THE KITCHEN GARDEN.

TOMATOES.

WE have no time in the year when ripe Tomatoes are so much appreciated as the spring and early summer, and the best way to have them from March onwards is by sowing early in September and wintering the young plants in a cool house. These plants should now be showing flower and ready for their final potting; they may be placed in 10-inch pots, using turfy loam with a sprinkling of manure, and then plunged in gentle bottom heat to induce

root action, giving sufficient air to prevent the plants from becoming drawn. They succeed best in a span roofed house, but may be grown in any lean-to house or pit where a hotbed can be made up for their reception. Gentle bottom heat is of great importance when ripe Tomatoes are required early; the bed should be so made that the first truss of flower may reach the bottom wire of the trellis, which should not be more than 10 inches from the glass. The best mode of training is to have single stems, pinching out side shoots as they appear; the main stems should be 8 inches apart, for I am sure that overcrowding is often the cause of disappointment in the cultivation of early Tomatoes. When the flowers are ready for fertilisation care should be taken that the pollen from the best flowers be conveyed to the stigmas of others, which at this early date may possess none of their own, by means of a camel's hair brush. When a full "set" of fruit has been secured an ample supply of manure water must be given to ensure their development. A temperature of 55° at night and 60° to 65° by day, with plenty of air, will suit them admirably. Most gardeners have their favourite Tomato, and so have I, for I have not found anything to equal Frogmore Selected for winter and spring fruiting. J. D.

PARSLEY GROWN IN TUBS FOR WINTER USE.

THE illustration shows a convenient way of having Parsley for winter use. It often happens that the outdoor supply is stopped in severe winter weather, and if no frame or other protection has been provided the want of Parsley, so precious a thing in much fine cooking, is much felt in a good kitchen. A small tub with a capacity of nine gallons, or even smaller, if prepared with holes and planted with strong young plants in the autumn and placed in a greenhouse or vinery when cold weather sets in will provide a moderate quantity of useful Parsley. Moreover, when well furnished, the tub having the summer before been painted a quiet, rather light colour like that of a Sage leaf, it is by no means an unsightly object.

A GOOD WINTER BEAN.

I KNOW of no other Bean to equal Osbornes' Early Forcing for winter use. Although the weather of the past few weeks has been anything but favourable for forcing Beans, I have had some nice gatherings. One great advantage derived from growing this variety is that it requires no support from stakes, which is a great saving of labour where Beans are forced in great quantity. H.

NOTES ON LILIES.

LILIUM CANADENSE AT ROWDEN ABBEY.

BEING a great admirer of the Lily family generally I have been much interested in the various notes which have appeared in THE GARDEN concerning this lovely tribe of flowers. If I may be allowed to do so I should like to say a few words about *Lilium canadense* as it grows in my own garden.

In 1886 while staying with friends near New York I had the good luck to find this Lily growing wild in a swamp near the little town of Poughkeepsie. I dug up about a dozen bulbs, and though the poor things were in full bloom and many days passed before they were again consigned to the care of mother earth I did not lose one of them.

I planted them in our ordinary garden soil, which is a fairly stiff good red loam, without peat or any other foreign material, and in it the bulbs have flourished and increased in a wonderful way.

At the present time in a border, of which the length is 64 yards, there are forty-eight large clumps, which form an imposing background to the other plants in the bed. These clumps measured, some of them, 2 feet through at the base, and some

more, and when in full bloom the flowers nearly touch each other at the top. When at their best they are a lovely sight, and I think nearly as many friends come in the summer to see the Lilies as to see the Narcissi in the spring.

As will be seen from the photograph the border in which the Lilies grow is freely exposed to the sun, and at no time of the day is it even in partial shade. Besides the clumps already mentioned there are numbers of large ones in different parts of the American and wild gardens, all of them offsprings of my spoils of 1886. Some bulbs, too, have found their way into the gardens of friends, so it will be seen that the increase has been a very fair one.

I was much pleased when Mr. Elwes, of Nerine and other fame in the plant world, remarked that never anywhere had he seen such fine specimens of the Canadian Lily as mine, though when he saw them they had only been established a few years.

I had only a few of the yellow variety, and those after a time vanished entirely, leaving rubrum in sole possession of the border. If I remember rightly, *L. c. flavum* did not seem to have quite the same growth as rubrum, throwing up fewer flower-stems, and appearing altogether of a much less free and robust nature than its darker-coloured brother. Will any one kindly tell me if this be the case generally with this Lily? I may as well mention that the common yellow Martagon Lily grows in the same bed as canadense in even greater profusion. EDITH A. BAILEY.

Rowden Abbey, Bromyard.

[We much regret that the photograph sent is unsuitable for reproduction.—Eds.]

THE TIGER LILY.

THIS Lily, whose beauty in a cut state is well shown on page 13, has, apart from the lasting property of the blossoms alluded to in the accompanying article, another desirable feature for indoor decoration, and that is the flowers are wanting in the heavy overpowering smell common to many Lilies, which prevents their being used anywhere in a close atmosphere. Besides this it is a thoroughly good garden Lily, thriving as it does in an ordinary mixed border, while the colour of the flowers is very distinct from that of most members of the genus, and they are produced, too, when the majority of Lilies are over. Added to this, it is one of the cheapest of all, and can be depended upon to flower well the first season after planting, so that the term recently applied to it of "the poor man's Lily" is particularly appropriate. Besides the typical species which was introduced from China nearly a century ago, there are some well-marked varieties, notably *flore-pleno*, which is one of the very few double-flowered Lilies that we have in our gardens. The numerous petals of this Lily overlap each other in a regular manner, but whether it is as pretty as the single kinds is at least an open question. This



PARSLEY GROWN IN A TUB.

double-flowered Tiger Lily is largely grown in Holland, and may be obtained at nearly as cheap a rate as the common kind. A distinct and ornamental variety is *splendens* or *Leopoldi*, the flowers of which are particularly bright. They also exceed in size those of the ordinary form, while the dark spots on the petals are larger and fewer in number. From the time it first appears above ground this variety may be readily distinguished from the others, as the stem is very dark coloured and quite smooth, while in all the rest it is more or less woolly.

Another feature in which the variety *splendens* differs from the other Tiger Lilies is that it may be well grown in pots for greenhouse decoration without losing many of its leaves as they often do when treated in this way. The last variety to mention is *Fortunei*, of which huge bulbs are sent to this country every year from Japan. The stem and young leaves of this are very woolly, and the flowers are rather pale, but the exceedingly large bulbs produce such spikes of blossoms as we do not see in any other variety of the Tiger Lily. H. P.

IN THE GARDEN AT IGHTHAM MOTE.

THE charming old-world Ightham Mote, the residence of Mr. T. Colyer-Fergusson, possesses a beautiful garden. A glimpse is given of one part of it in the accompanying illustration. We see here the beauty of mixed border, grass walk, and rough wood arches, quite simple and delightful, being in part covered with Roses, Clematises, and climbers as free and profuse. Wall gardening is a feature, many a Snapdragon, *Toriliflex*, Wallflower, and Saxifrage having become established in the chinks.

GARDENING OF THE WEEK.

KITCHEN GARDEN.

NOW that frosty weather has set in the supply of forced vegetables, such as

ASPARAGUS AND SEAKALE,

will be of great importance, and care must be taken that the beds from which the roots are to be lifted do not become frost-bound and cause a break in the supply. Such beds should have a covering of long litter, which may be trenched into the ground as the roots are taken up. Where forced Asparagus is required daily, or even three times a week, it becomes necessary to set a pit apart for the purpose, preference being given to one where a little artificial heat can be applied in frosty weather, and where a bed of leaves can be made up to a depth of 3 feet, which will afford bottom heat enough to carry through three lots of crowns, providing a little fresh horse droppings or other fermenting material can be mixed with the old bed each time fresh roots are introduced. The best roots for forcing are those grown for the purpose three years old, and where a piece of ground can be set aside for their cultivation, and plenty of leaves to be had, as they are in most country places. I fail to see why forced Asparagus need be looked upon as an expensive luxury. The hotbed on which the roots are to be forced should have a layer of rotten manure 2 inches deep, over which may be sprinkled

a little fine soil, and the roots placed as close together as possible, covering with 1 inch of sifted leaf-mould, and watering liberally at a temperature of 70°, so that the soil may be washed well amongst the roots. If left for a few days the young shoots will appear, when the whole surface of the bed may be covered with fine leaf-soil to the depth of 4 inches with a bottom heat of 70°. Asparagus can be gathered in ten days from the date of its introduction to the forcing pit.

SEAKALE ROOTS

intended for forcing may now be lifted and stored in some sheltered corner, where they may be kept covered until required. Care should be taken to save as many of the best young rootlets as are necessary for next season's plantation. These should be 6 inches long, and cut clean through with a knife, the upper end straight, and the smaller end on an angle, and laid horizontally in a trench on a south border and covered with 9 inches of light sandy soil until April, when they will have begun to form crowns, and may be planted out in well-prepared soil 1 foot apart and 2 feet between the rows, using an ordinary garden dibber for the purpose. Seakale is one of the easiest vegetables to force provided it is not subjected to too much heat at first; it may be grown in pots and boxes in any dark chamber with a little heat, or in underground pits provided with shutters, and where a gentle bottom heat can be applied by beds of leaves; the latter mode of forcing is best where large quantities are required, but where only

an occasional dish is needed pots are the most convenient.

Continue to plant Potatoes in heated pits for succession. The sets having been advanced in trays must be carefully handled in order to save as many of the young roots as possible. A sowing of Radishes may be made between the rows. The best varieties for sowing now are the Early Scarlet Turnip-rooted, the White Turnip-rooted, and Wood's Early Frame. Sow Lettuce seed in boxes, and place in gentle heat as near the glass as possible, and make weekly sowings of Mustard and Cress.

BROAD BEANS.

If not already done, a sowing should be made as soon as possible in a sheltered position, where the soil has been manured and well dug in the autumn. Beans like a heavy rich soil, their roots extending downwards to a considerable depth. Early Long-pod is one of the best for early sowing, and should be sown in rows 3 feet apart with 6 inches between the plants as a precaution against mice. The Beans may be damped and well sprinkled with red lead before sowing. JOHN DUNN.

Royal Kitchen Gardens, Windsor.

CHRYSANTHEMUMS.

By this time the principal batch of cuttings which are intended to furnish specimen blooms next autumn should be nicely rooted and fit to be repotted into 3-inch and 3½-inch pots, of course keeping the weaker kinds in the smaller size. It



MIXED BORDERS AND ROUGH ARCHES AT IGHTHAM MOTE.

is well to bear in mind and worth mentioning at this time that as each stage of the potting is performed it is a grave mistake, for the sake of appearance and convenience, to place the whole of the collection in a given sized pot, regardless of the variety or the strength of the plant; consequently, the soil becomes soured, and in the end, instead of the plant making the progress it should, it attains a sickly hue, and from which it will never properly recover. Some varieties may be grown and flowered in quite two sizes larger than others, owing to their vigorous constitution, but I am perfectly certain it is far better to err on the side of too little rather than too much pot room. It is not so much the amount of compost contained in the pot, but the attention as to feeding and watering that the plants receive which will produce the best results. Overpotting in nine cases out of ten means overwatering. I always maintain that there are more plants which are cultivated in pots ruined through careless watering than from any other cause; and this applies to all kinds of plants, but to none more so than the *Chrysanthemum*. Young men commencing gardening can hardly bestow too much on the drainage and watering of plants in pots.

COMPOST.

A suitable mixture for this potting should consist of three parts light fibrous loam, which should be broken up finely, one part thoroughly decayed leaf-mould, one part well-spent Mushroom bed manure (the two latter should be passed through a quarter of an inch mesh sieve), a liberal supply of coarse silver sand, and a sprinkling of finely-powdered charcoal and bone-meal added; the whole should be thoroughly mixed by turning at least three times. It should be used in a moderately dry condition, the state of which can easily be determined by squeezing it in the hand. If by so doing it has a tendency to become pasty it should not be used, but spread out thinly in some place where it can dry quickly. The pots and crocks should be thoroughly cleansed before use, and in the case of new pots give a good soaking and well dry. Place one large crock over the hole, and gradually build up in sizes until sufficient is allowed for the water to pass away freely, using quite fine material for the finish, over which place a thin layer of fibre taken from the loam heap after rubbing out every particle of soil, thus ensuring the drainage—if worms are excluded, as they most certainly must be—being kept in a perfect condition. Carefully examine each plant before potting, and thoroughly water if necessary three or four hours before potting the plant. Arrange, if possible, to carry out the work in the house in which the young plants are growing, thus giving as little check as possible. Pot moderately firm by using a lath or properly made potting stick. Finish off with a little of the finest of the soil, and a dusting of silver sand on the surface. The plants should be well damped over with a fine rose watering-pot, just sufficiently to settle the surface soil, and for about a week or ten days they will enjoy a position on shelves near the glass in a greenhouse temperature. About the third day from the time of potting thoroughly water through. The weakest plants should be kept together so that they may be treated accordingly, as these will require less water both at the roots and overhead. Fumigate occasionally to ensure the plants being free of insect pests.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

ORCHIDS.

WHEN at this time of the year work in the houses is practically at a standstill, it is advisable to prepare the soil and other materials which will be required later on for the potting of Orchids. To ensure success in the cultivation of these plants it is necessary to use only prepared peat, that is to say, that this material should be rendered fit for the work by having the fine part extracted out of it, the fibrous part only being preserved in a roughly broken state, the largest pieces being about the size of pigeon's eggs. When thus prepared, and kept in a dry and well-ventilated place for a few

weeks, it is purified to such an extent that it remains sweet and seldom encourages any cryptogamic growth, and when used in that condition it retains its porosity for a long time, and does not decompose like unprepared peat generally does. Nothing is more damaging to Cattleyas, *Celogynes*, *Lycastes*, and other Orchids than to have peat of a more or less boggy nature piled up around their pseudo-bulbs. After two or three years of such treatment the plants which have been subjected to it are of very little value and not worth half as much as freshly-imported plants, which, when placed under favourable conditions, grow with much greater vigour. The sphagnum intended to be used for either surfacing or potting later on must also undergo a process of cleaning, and as it is a tedious and somewhat lengthy operation it is best done while the time can be spared. This cleaning consists in picking out of it all dead leaves, pieces of grass and wood, all of which through their decomposition have a tendency to produce fungus, which must be kept away by all possible means. When cleaned, the sphagnum may easily remain in fresh and sweet condition if kept in a heap under cover and turned over from time to time. During this dull season pots may also be washed and stored in readiness for any emergency; hanging-pans and baskets should also be provided with copper-wire handles, and made ready for use. All these materials may, therefore, be prepared while there is nothing requiring special attention but the cleaning of the plants in the houses. The watering must at this time of the year be done with great moderation, and the temperature in all the houses devoted to Orchids kept down so as not to stimulate the plants into growth too early, and not to encourage the production of insects. During the whole of January the temperature of the Indian house should be 60° to 65°, that of the Cattleya house 58° to 60°, and that of the *Odontoglossum* and *Masdevallia* house 50° to 55°. As regards Orchid flowers, the month of January is about the least favoured of the whole year, for, with the exception of a few stray-flowering or of some recently imported plants which flower at any time of the year, such as *Lycaste Skinneri*, *Epidendrum Vitellinum*, various *Oncidiums*, and *Odontoglossums*, there are not many in cultivation which may be termed really winter-flowering. Now, however, is the proper time for *Angræcum sesquipedale*, *Calanthe Veitchi*, *C. vestita* and varieties, *Cypripedium Charlesworthi*, *C. insigne*, *C. spicerianum*, and the numerous and beautiful hybrids produced by the crossing of these species and by that of their already cultivated hybrids. The beautiful *Phalenopsis schilleriana*, from Manilla, also usually expands its lovely blossoms of a particularly rosy pink colour, and the Orchid houses are perfumed through the delightful fragrance of the richly marked flowers of *Zygopetalum Mackayi*, a Brazilian plant of easy culture, and one which really deserves to be grown more extensively than it is at present. S.

INDOOR GARDEN.

BEFORE the rush of spring work begins, as it will very shortly, it is well to put the various structures in thorough working order; the glass and woodwork to be thoroughly washed with strong soapy water, using a little of the preparation known as soluble paraffin; the walls or any wall surface to be well coated with hot lime. I also use neat paraffin, as it penetrates crevices which would otherwise be overlooked. We paint the interior of glass houses annually—greenhouses, vineries, Peach houses, &c., one coat, while stoves, Melon, and Cucumber houses receive two coats. This keeps the woodwork in good repair, making the houses last longer, besides giving a neat and clean appearance. I would strongly urge the practice of this work in gardens, as the outlay is trivial when done regularly, and any handy labourer could profitably be employed at this work in weather when outdoor work is at a standstill. The production of cut flowers will now be engaging the attention of many, and this is a matter which requires considerable forethought and judgment. We have nearly exhausted our stock of Chrysan-

themums, and having no substitute which will in any way take its place, we are perforce driven to the forcing of Roman Hyacinths, Tulips, Lily of the Valley, Freesias, Paper-white Narcissus, &c. The Roman Hyacinths having been duly potted in August and September, little difficulty is experienced in producing flowers, a little time in the forcing-house soon bringing them into bloom. The same remarks apply to Narcissus. It is well to remove all forced flowers when almost fully developed to a cooler temperature.

FREESIAS

should not, however, be put into the forcing quarters until the spikes are well advanced, and then they should be placed at the cooler end of the house. Late batches must be liberally fed, say, twice weekly. I find farmyard liquid is the best for these, with plenty of air and the syringe. *Azalea mollis* and *indica* must also find room in the forcing quarters. A. *Deutsche Perle*, a choice double white that forces well, is largely used here, and I know of no *Azalea* which so well repays, as it is literally smothered by its own flowers. The syringe must be kept going briskly amongst the foliage, while this can be done with impunity, or our enemy the red spider may make its unwelcome appearance. Callas now pushing up their flower-spikes should be encouraged by frequent applications of liquid manure or a dusting of pure guano. A somewhat moist atmosphere is most suitable, such as that of a viney or Peach house, which is being pushed on. Cyclamen, too, will now be adding to the flower-basket. A good position near the glass with plenty of air is necessary for them. A very slight dusting of Clay's Fertiliser—say, once fortnightly—is of advantage in pushing the flowers well above the foliage.

BOUVARDIAS

now going over should have less water at the roots, and be gradually prepared for a season of comparative rest. The main stock of *Poinsettias* will also be at their best, when they are to be used in a cut state. The bases of the stems when cut should be put in very hot water; this seals the wound and prevents bleeding, which so very soon exhausts the flower. Carnations, such as Mr. Leopold de Rothschild, C. Winter Cheer, C. Mrs. Moore, C. americana, &c., will in their own quarters be making a winter display. A night temperature of 50°, with a rise to 55° with sun and the admission of air by day, will be found a suitable growing temperature. Pure guano and Clay's Fertiliser alternately should be given, once fortnightly, at the rate of a dessert spoonful to a 6-inch pot, assuming the plant to be in good health. Ferns will also require attention. Foggy, dull weather is apt to cause what is known as damping, and these decaying fronds must be removed.

CHRYSANTHEMUMS.

The main batch of cuttings should now be put into small pots to root, if this has not already been done. Many, of course, have been put in during November and the early part of December, but, with the exception of a few, I prefer to put in the principal of our stock at the end of December or very early in January. After being put in for a few days, they must be carefully looked to in case of damping-off setting in; it is well to admit a very slight amount of air, and the lights should be regularly dried if an accumulation of moisture adheres to the glass, as it readily does at this season. J. F. McLEOD.

Dorset House Gardens, Rochampton.

THE FLOWER GARDEN.

SCARLET LOBELIAS.

THE scarlet *Lobelia* is a troublesome plant in many gardens, and when stock is propagated by division of the lifted plants canker of the root-stalk is certain to cause great losses through the winter, these losses being sometimes so severe and persistent that sufficient plants cannot be raised from the remnant. Personally, I get over this difficulty by raising a batch of seedlings annually, and from these the flowers are more lasting and better in every way, but as this is not the time for

sowing seeds the matter may be left now, and attention turned to the ordinary stock of lifted plants. I always found that the only way of saving the plants after canker had set in was to divide into single crowns, each, if possible, with a little root, put them in boxes of fresh soil, and transfer from the cold frame to a vinery or Peach house which has been just started. Once new root action is set up the decay ceases, and the plants may readily be hardened off again by the end of March, and make good material for early planting. Those who may have tried the plants on the biennial plan I have found so successful will now have their seedlings big enough to prick off from the seed pan into boxes, putting them about 2½ inches apart, and treating them for a few weeks to a little heat. I may add that these seedlings are quite as superior to the divisions as a seedling Carnation, in its first year, is to a layered plant in a garden where Carnations are difficult to grow, and I feel sure that this fact only wants knowing to cause a revolution in the method of treatment given in almost all gardens.

STOCKS.

Of all Stocks, the Intermediate or East Lothian varieties are probably the best for most gardens, as they have such a long season of flowering. Biennial culture is generally recommended, and is the best when summer effects are desired, but plants grown in this way have lost their freshness before the shooting season—which plays such an important part in the country house of to-day—comes in, and in growing for the autumn alone I have found it best to sow early in the year. The method is this: A hotbed is made up, and when the heat has sufficiently declined seeds are sown on about 4 inches of sweet soil placed direct on the hotbed, or in boxes, in which the soil is shallower. When the plants are big enough to handle they are pricked off in fresh soil on a more recently made bed, and here they may remain till sufficiently hardened for planting out where they are to flower. The common weakness of “damping off” in the early stages may be prevented by care in ventilating and watering, combined with the use of lime in the soil; the latter, too, is most useful in regenerating the soil in borders or beds, which may have become “stock sick” through being constantly planted with these or with allied plants. The best of the East Lothians, as far as my experience goes, are the white, crimson, and rose-coloured forms. The latter is new, and a really robust, free-flowering variety, but of the new so-called scarlet I cannot speak so favourably.

PROPAGATING.

The spring propagating season of many tender plants used in the flower garden will soon be with us, and though I do not advocate too much haste in this matter it may be necessary through shortness of stock to place such things as *Heliotropes*, *Lobelia erinus speciosa*, *Marguerites*, &c., into heat, where they will soon make a start.

OUTDOORS.

Should the mild weather continue it will be advisable to take the opportunity of getting work forward in this department to save a rush later on. Live edgings of all kinds may be planted at any time during the winter when the weather is fit. In the formal part of the garden neatness is imperative, and all edging plants should be kept trim and neat; this can only be done by keeping the more straggling of the plants used for this purpose within bounds by lifting and replanting. Where Box is used, neatness may be gained by the use of the shears alone, but even this would be often seen in better condition if lifted and re-set every few years, as old plantings are apt to become gappy or yellow in places.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

FRUIT GARDEN.

TREATMENT OF NEWLY-PLANTED TREES.

THE weather up till the end of the year favoured planting, and with a break the cultivator will do well to do any work that may be performed, such as giving newly-planted trees protection and

staking them. It is well to give a mulch of long manure to recently-planted trees, a point often overlooked at the planting, but should take place before severe frost reaches the roots. Standard trees should be supported, as, though it is well to leave them for a time to allow of the ground settling, there should be no further delay. As regards the pruning of newly-planted trees, there is a diversity of opinion. Much depends on the size of the trees, but under any conditions I would defer pruning until later on, say, early in March, as newly-planted trees are later in starting into growth than established ones. The pruning should consist in merely shortening the leader in the case of Apples and Pears, as much may be done to bring the trees into shape during growth by stopping misplaced shoots. I am aware it is useless to leave gross wood too long. There must be some cutting back to induce a lower break, so that, as I have previously noted, much depends upon the size and vigour of the trees. As a rule, severe cutting back is not needed when the trees have been recently planted.

ORCHARD TREES.

These are frequently left to take care of themselves after planting. I am not a believer in keeping old, worn-out trees that only produce inferior fruits, and with severe weather time may be found to remove such trees and prepare for new ones. The same advice is applicable to useless trees, as in many gardens there are numbers of such trees, which not only rob the soil, but also prevent crops growing freely. It is useless to plant new trees in the same position as occupied by the old ones, but this is readily avoided by marking out new sites and thoroughly preparing the land by trenching and adding such materials as the soil requires. There is yet two full months in which to plant, and after a fairly long experience I would add that it is much better to plant good trees and the best varieties. I need not give lists, as this matter was ably treated by the Editors last year, but I would add there is no merit in numbers or varieties. Kinds known to be the best are needed, and which give as long a season as possible. It should also be borne in mind that some of the late varieties termed “cooking” Apples are not at all bad for dessert if kept late in the spring, and such kinds as Lane's Prince Albert crop grandly in most places.

TREES ON OPEN WALLS.

There is always a fear that the Peach and Nectarine after a mild winter will bloom early and the fruit crop be poor in consequence. It is a good plan to retard, which is preferable to shelter when in bloom. During the past month my trees—at least, the fruiting portion, the younger growths—were all detached from the wall, and will remain so till the blossom is nearly expanded. By this plan the new wood is better in every way, being firmer and cleaner by free exposure. In our own case I have never observed any injury to shoots in

the hardest winters when away from the wall, but there is some danger with shoots tied closely to galvanised wires, as the bark is affected, so that in all cases I would advise loosening of the fruiting wood, at the same time having the main branches securely supported to prevent breakage. There is scarcely any pruning with these trees in the winter if due attention be paid to cutting out useless wood and wood just cleared of fruit as soon as the fruits were gathered. Fig trees on walls in exposed positions may now require extra protection. It is an easy matter to tie the branches together and cover with dry Bracken or straw and with mats securely fastened to the walls; indeed, in some cases I have taken the trees from the wall, laid them at the base, and covered in very hard weather.

G. WYTHES.

Syon House Gardens, Brentford.



LUCULIA GRATISSIMA.

LUCULIA GRATISSIMA.

THE plant from which the accompanying photograph was taken has been in its present position about eighteen months. Previous to this it was grown in a pot, where it made little or no growth. It is now planted in a border about 2 feet deep in a compost consisting of loam, peat, and sand. The temperature is kept as nearly as possible at 50°, and with this amount of heat it commences to flower about the first week in December. As soon as the buds are formed, generally in October, it receives once a week a weak solution of liquid manure and Thomson's Fertiliser alternately (of the latter, a teaspoonful to a gallon of water). When the flowering is past it is kept on the dry side for about two months before starting into growth again. In the summer it is given plenty of water, and is also kept continually moist by what it receives from the watering of other plants on the

stages near it. It is very subject to mealy bug, which must be continually watched for and washed off with Gishurstine as soon as it appears.

One of the largest plants known is now growing at Firbeck Hall, the property of Mr. S. Jebb, a few miles from here. It is about twenty-two years old, and rewards the care of its gardener (Mr. W. Egglestone) by carrying from 800 to 1,000 trusses of bloom every year. It is grown in an almost cold house, and does not blossom until January.

Workshop.

M. ALDERSON.

NURSERY GARDENS.

MESSRS. SUTTON & SONS, READING.

A VISIT to the nursery of Messrs. Sutton is always interesting and enjoyable, no matter at which season of the year it may be paid. During the spring and summer time the seed-trial grounds, with their myriad colours of plants in flower, are the centre of attraction, while during autumn and winter many hours might be profitably and pleasantly spent in the extensive seed warehouses and offices. It is, however, to a midwinter visit that we would more particularly refer at the present moment, where the houses devoted to the culture of Primulas and Cyclamens are bright with the many varied forms and colours of these winter-flowering plants that Messrs. Sutton have done so much to improve and popularise.

For quite five or six months of the year—from November until April and May—are Primulas to be seen in flower in the houses in the nursery gardens at Reading, and so much have they been improved in vigour of growth and substance of bloom that they appear to pass through the usually destructive fogs of the Thames valley untouched and unaffected by them.

When looking through the Royal Seed Establishment at Reading one is struck with the extreme care that is taken in the selecting and testing of the various seeds. Before being sent out, seeds of every description—flower, vegetable, and farm seeds—are tested as to their capability of germinating satisfactorily; and should any be found that do not meet the required standard of efficiency they are discarded. A practical record is kept annually of the numerous varieties that are placed in the market by retaining a few seeds of each, sowing them and growing the seedlings on to the flowering stage. Many of the latter were noticeable on the occasion of our recent visit, and proved by their almost absolute uniformity how thorough and careful is the selection.

House after house is filled with Primulas in flower, producing such a picture of colour that is worth going far to see. That old variety, Sutton's Pearl, which has been in commerce for over twenty years, and still holds its own as one of the most useful white Primulas for the greenhouse that we have, on account of its robust habit and easy culture, was well in evidence. Another excellent single white is Sutton's Royal White, whose rich dark foliage forms an effective setting to the pure ivory-white flowers. That known by the name of Reading Pink is a charming variety; the dainty pink flowers are beautifully fringed, and should find a place in every col-

lection. An early and very free-blooming one is called Reading Scarlet, a name that is well deserved by the brilliant scarlet blooms. One does not meet with the blue Primula—so it seems to us—as often as one should do. If the variety Reading Blue, now in flower with Messrs. Sutton, were to be seen by those who do not possess it, we feel sure they would quickly become its admirers. The upright trusses of splendid flowers are of a beautiful blue, and it may be incidentally mentioned that they are seen at their best in partial shade. In the Riviera blue Primulas are used to a considerable extent in the embellishment of the gardens there—gardens that are in many respects unequalled throughout Europe—and one always finds them placed in well-shaded positions.

Last year Messrs. Sutton introduced a novelty in blue Primulas, under the name of Cambridge Blue, which well describes the colour. The tint is more delicate than that of Reading Blue above mentioned, and pleasingly associates with it. Undoubtedly one of the most useful of all the numerous Primulas that Messrs. Sutton have is Sutton's Crimson King. It comes into bloom early in the season, and maintains a continuous display during the autumn and winter months. Its colour is almost that of the old Clove Carnation, intensified by a very dark band surrounding the eye.

Those who prefer the Fern-leaved varieties would be equally delighted with those Messrs. Sutton have on view; some of the best are Improved White, with elegant pure white flowers; Purity, white large flowers and dark brown foliage; Rosy Queen, Sutton's Blue, and Snowdrift. The last-named is a beautiful pure white Primula that comes into flower very early and blooms freely for a considerable portion of the season. Amongst the doubles are the Improved Double Scarlet, almost as rich in colour as Crimson King above mentioned; Double Blue, a double form of Reading Blue;

alba magnifica, and Carnation Flaked. These latter, as the flowers mature, develop bright flakes and dots upon their petals, and comprise many lovely colours. Sutton's Giant Primulas in various shades are too well known to need further description here; they are indispensable in every greenhouse. The delightful Star Primulas, that eventually develop into such splendid plants, masses of flower, are not yet at their best. Messrs. Sutton have now a blue form of this, although we believe it has not yet been sent out.

The Cyclamens must have one concluding word, although, to do them justice, we might write about them for long. Quite a strong perfume is apparent when one enters the house filled with smaller flowered types. It would seem that it will not be very long before we have true-scented Cyclamens; at present they do not appear to be definitely fixed. The Giant Whites are very fine, as also are the Giant Rose, pink, crimson, and other colours. Three varieties, respectively called White Butterfly, Salmon Queen, and Vulcan (not giant forms) are exceptionally good. Vulcan is the darkest coloured Cyclamen we have. One might dwell for long upon other colours, shades, and forms that are to be seen amongst the enormous number of plants grown for seed by Messrs. Sutton, but enough has doubtless been said to give some idea of the varied beauty comprised in the Primulas and Cyclamens raised by the famous Reading firm. A walk through the offices, despatch rooms, and seed warehouses serves but to impress upon one how careful and concise are the working methods practised throughout the establishment.

BOOKS.

Horticultural Directory.—This useful publication for the year 1901 is before us. No gardener should be without it, for it contains a great deal of information relating to horticulture



A PERSIAN CYCLAMEN HOUSE AT READING.

that is indispensable. Exhaustive lists are given of London and provincial nurserymen and seedsmen, as well as of head gardeners throughout the United Kingdom. Plants having received certificates and awards of merit from the Royal Horticultural Society between October, 1899, and September, 1900, are described, and many useful garden recipes given, together with other general information. "Journal of Horticulture" Office, 12, Mitre Court Chambers, Fleet Street, London, E.C. Price 1s.

The Rosarian's Year Book for 1901.—We have received this publication (edited by that veteran rosarian, the Rev. Honeywood D'ombrain) for 1901. It is dedicated to the Rev. F. R. Burnside, of whom there is an excellent portrait. The articles comprise: "Roses under Glass," by Mr. Walter Easlea, jun.; "Some New Roses of 1900," by the Rev. Joseph Pemberton; "The Roses and the National Rose Society in 1900;" "Hybrid Tea-scented and China Roses," by Cecil B. Cant; "Rose Exhibiting," by Mr. R. E. West; "Hardiness of Tea Roses," by Mr. George Paul; and "Rose Weather in 1900," by Mr. Edward Mawley



CHINESE PRIMULAS AT READING.

RAINFALL AT THE GARDENS, TAN-Y-BWLCH, FOR THE YEAR 1899.

Month.	No. of days on which 01 and upwards was registered.	Date of heaviest fall in 24 hours.	Amount.	Total for month. inches.
January ..	19	20th	2.18	8.98
February ..	15	11th	.79	4.63
March ..	13	25th	1.33	2.32
April ..	25	9th	1.16	7.14
May ..	16	15th	.48	3.77
June ..	9	30th	.77	3.27
July ..	13	10th	.99	2.75
August ..	11	29th	.99	2.57
September ..	23	15th	.82	5.02
October ..	11	29th	1.33	4.73
November ..	15	7th	1.25	4.55
December ..	14	4th	.58	3.51
184				53.84

FOR THE YEAR 1900.

January ..	26	6th	1.13	6.80
February ..	16	9th (snow)	1.05	5.35
March ..	12	16th (snow)	.43	1.62
April ..	16	11th	.61	3.66
May ..	14	21st	1.11	3.39
June ..	20	24th	.63	3.99
July ..	17	31st	.69	3.42
August ..	15	31st	1.68	8.05
September ..	14	26th	.66	3.68
October ..	26	24th	1.09	8.04
November ..	19	24th	.84	5.79
December ..	23	27th	.86	8.14
218				61.93

JOHN ROBERTS.

RAINFALL AT SHIPLEY HALL GARDENS, DERBY,

FOR THE YEAR 1900.

Month.	inches.
January ..	3.97
February ..	4.02
March ..	.78
April ..	1.25
May ..	1.63
June ..	2.42
July ..	2.72
August ..	5.55
September ..	.87
October ..	3.05
November ..	3.06
December ..	4.59
33.87	

FOR FIVE PREVIOUS YEARS.

Year.	inches.
1895 ..	24.54
1896 ..	28.10
1897 ..	25.79
1898 ..	23.92
1899 ..	27.76

It will be seen by the totals for the five previous

years that 1900 registered far the largest fall and is the heaviest of any year I can find recorded here. Rain fell on 205 days. August was the wettest month. The heaviest fall for 24 hours was on December 30, when we measured 1.76 inches. The next heaviest was 1.30 on August 5.

J. C. TALLACK.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

PROPAGATING ARMERIA CEPHALOTES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In a recent number of THE GARDEN this showy Thrift has been referred to as being difficult of propagation, but I can confidently state that this is by no means the case. It is only necessary to slip off a few of the small shoots of which the tuft consists (assuming that the plant is not less than three or four years old), trim the base of each with a sharp knife, and plant them about 2 inches deep, giving them the protection of a hand-light if possible. This is not absolutely necessary, but will hasten the rooting process, which occupies from four to six weeks, the period of course varying with soil, season, and position. Even a double-headed slip or cutting will root.

Ipswich.

W. THOMPSON.

TEMPERATURE OF RUNNING AND STILL WATER.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In THE GARDEN of December 22, "D. T. F." makes a singular mistake as to the comparative temperature of running water and still water. He says, in speaking of Richardias: "Planting in running streams is safer, because they are warmer than lakes, ponds, or fountains." As a matter of fact, running water will frequently fall considerably below 32° Fahr. without freezing, while still water always remains above that temperature under the ice which forms the surface. I have had 3 inches or 4 inches of ice over Richardias in still water without damaging their vitality if they were planted deep enough for the crowns to be some inches below the ice. Deep planting under water is the secret of success, and for this reason I should hesitate to recommend dwarf varieties, such as

Little Gem, which naturally cannot be planted so deep as the stronger growing kinds. With regard to the yellow species, I have tried two of them in water under similar conditions to those in which the white thrived, and have been unsuccessful; but it would be rather too hasty a generalisation to infer from this that such a method may not succeed, though my own belief is that they all require more heat than the white, and that they do not like their crowns to be under water.

Parkstone, Dorset.

H. R. DUGMORE.

THE ITALIAN STONE PINE (PINUS PINEA).

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was very much pleased to see the beautiful illustration of a characteristic portion of the Pine Forest near Ravenna, Italy, in THE GARDEN of December 22, page 449. It is a picture that will, as I hope, draw attention to one of the most distinct and most remarkable of all the European Pines amenable to cultivation in our gardens and ornamental grounds. There is a specimen at Hamwood, Dunboyne, County Meath, that was reared from Italian seeds brought from the gardens of the Borghese Villa in the way you describe in the note accompanying your illustration. The Stone Pine is by far the finest specimen coniferous tree now existing in the University Botanical Gardens at Dublin. This specimen is about seventy-five years of age and close upon 50 feet in height, and its girth at 5 feet from the ground is close on 66 feet, while the umbrage or spread of its head is 35 feet. When the members of the Royal Scottish Arboricultural Society visited Dublin in 1897 they were much astonished to find such a good example alive and healthy in what is nowadays a veritable town garden. Mr. Adolphus H. Kent also admired this tree when he visited Ireland before the publication of the second edition of Veitch's "Manual of the Conifere." On page 363 of this work the author says, in relation to this Pine: "Certainly the most imposing yet seen . . . is standing in the Trinity College Botanical Gardens, Dublin; and there is one at Powerscourt, and another at Charleville, in County Wicklow, worthy of mention." Wherever shelter can be secured, on deep, rich alluvial soils and in genial localities near the sea, this noble Pine may be planted with every chance of permanent success. Groups of it might also well be tried within the shelter of other coniferous woods and plantations, especially on deep, rich, and warm soils. It is called "Stone Pine" in England from the hard seed coats. In Italy it is the "Pino a Pinocchi":

in Spain the "Pino real" or "Pino a Comer," from the fact that its large seeds are a welcome article of food; in France it is the "Pin de Parasol," from its umbrella-shaped head of densely-arranged branches. Artistically and economically it is one of the best-known Pines of the Mediterranean region to which it belongs, and the fine old spreading tree at Kew, giving as it does a fair idea of its hardihood in the Thames Valley, ought to encourage southern planters to give this noble Pine a fair trial in our gardens. F. W. BURRIDGE.

ARUM LILIES OUT OF DOORS.

[TO THE EDITOR OF "THE GARDEN,"]

SIR,—The illustration and accompanying article on this subject on page 357 will probably have the effect of inducing others to try to grow these favourite flowers in their ponds and lakes. From what I know of the district in which Castle Kennedy lies and the climate it has, I do not think there is much danger of losing the plants in winter unless, perhaps, in a season such as that of 1894-5. Much, however, depends upon the depth of water over the crowns, which should be sufficient to prevent these from being frozen. I have tried some experiments with these Arums in my little aquatic plant pool, with the result that I have come to the conclusion that in this district the crowns should be at least a foot below the surface of the lowest water level likely to occur in winter. It will, one hopes, not be taken for granted that these Richardias will be hardy all over Scotland, or, for that matter, all over the south of Scotland. All along the west coast they ought to do admirably. In some parts of the east, near the coast, they will also be worth trying. In inland districts it seems almost hopeless to try to grow these Arums; at least, without protection. I have been much struck with the way in which the Arum grows in the open in some parts of Ireland. At Carton, for instance, it is quite a feature of the pond in which the best of the Water Lilies are grown. The Arums there look much prettier than in the photograph, because of the informal way in which they are planted by the margin. At Carton they seem to be increasing rapidly, and I think that they ought to do quite as well in the favoured grounds of the Earl of Stair at Castle Kennedy.

Carsforth, by Dumfries, N.B. S. ARNOTT.

SUMMARY OF WEATHER NOTES.

DECEMBER, 1900.

A VERY mild, wet month. Dull showery weather, with overcast skies and foggy nights, prevailed the first three weeks; week before Christmas fine and sunny, unsettled later, with violent storms and heavy rain, colder with hoar frosts; last week of century rain fell every day, with squally cold winds. Sunshine was registered on fifteen days. Rain '01 inches or more fell on twenty-three days. Heaviest rainfall, '73 on the 30th. Frost registered only on five days. Maximum temperature in sun 68° on the 4th, ditto in shade 54° on the 12th; minimum, 25° on the 22nd. Total rainfall for December, 1900, 3.26 inches; total rainfall for December, 1899, 1.32 inches; average rainfall for December (Windsor), 2.50 inches. Total rainfall for 1900 24.19 inches; total rainfall for 1899, 22.37 inches; average rainfall for year (Windsor), 25.50 inches.

OWEN THOMAS.

SOCIETIES.

LADY WARWICK HOSTEL, READING.

THIRD ANNUAL REPORT, DECEMBER 8, 1900.

THE third celebration of "Founder's Day" at Lady Warwick Hostel, Reading, was held on Saturday, December 8, when the Countess of Warwick received at the hostel a large number of visitors interested in agricultural education. After inspecting the grounds and the different branches of work carried on there, the guests proceeded to Reading College, in the hall of which the annual meeting was held, under the presidency of the Right Hon. Henry Chaplin, M.P. The Warden, Miss Edith Bradley, opened the proceedings by reading the annual report, which ran as follows:—

The year which is hurrying rapidly to its close has been a

most eventful one for the hostel, as well as for the nation. It was said that our whole future would depend upon the success of this second year, and that if we were able to train our students into good, practical workers, and then obtain remunerative posts for them, there need be no further anxiety as to the ultimate place this scheme would hold in the sphere of women's work; another authority stated that if the difficulty of marketing the produce could be satisfactorily met, that would relieve all further anxiety. I hope to show in the course of the report that we have made some headway in both matters, and for this purpose I propose to take a brief survey of the past year.

In its early weeks an important step was agreed upon between Lady Warwick on the one hand and the council of Reading College on the other, namely, to form a joint committee of management to advise upon the educational arrangements between the hostel and the college.

The joint committee, which meets once a term, has already assisted materially to work out a practical and satisfactory programme of education.

The appointment in January of Mr. W. Iggulden, F.R.H.S., as horticultural instructor to the hostel, has proved an unequivocal success; in fact, Mr. Iggulden has done wonders here, both as a lecturer and practical instructor.

The six acres of ground in Berkeley Avenue, which I had just taken when the last report was read, has proved a very valuable adjunct to the hostel. It has been planted with about 5,000 bush fruit (red and black Currants, Gooseberries, and Raspberries), 100 standard Plum and Damson trees, and 3,000 Strawberry plants.

When I have mentioned the erection of two large houses, 100 feet long, which have enabled us to grow Tomatoes and Chrysanthemums on a large scale, I think I shall have completed the list of developments which have been carried on this year.

The number of students has steadily increased. The total number who have entered the hostels since October, 1898, is 117.

A larger proportion of students take up horticultural work, therefore the facilities for a sound practical training have largely increased, and, in fact, are fairly complete. Besides the usual work of a garden, instruction in florist's work and table decorations is given, also growing large crops of Tomatoes (at one time we were sending 500lbs. a week to market), Chrysanthemums, other flowers, and vegetables. When I mention that—irrespective of the vegetables used to supply daily both hostels (that is for about sixty people), the value of which is estimated at £34 18s. 1d.—the amount sold between October 1, 1899, and August 31, 1900, realised £49 11s. 11d., it will be seen that a substantial result has already been gained by our labours; whilst the takings in September and October this year of £23, point to steady progress in this direction.

As it seems quite illogical to train students in the growing of produce without showing them also how to sell it, a marketing department was opened in February in connection with my farm. All surplus fruit, vegetables, poultry, and eggs have been sold, both to private customers and wholesale buyers. The department has grown steadily, the sales for the first two months, March and April, amounting to £24, and for the last two, September and October, to £77. The initial outlay has of course been heavy, as it has amounted to £160 between the months of February and October. Picking, packing, and despatching are all taught to students who have finished their regular course. Apprentices—not necessarily students—can be received to study this branch separately.

So far the demand for students in each branch has exceeded the supply, and we have thus been enabled to find posts for all fully-trained students who required them. In our two years we have started ten women in careers both remunerative and useful.

In conclusion, I would say that the result of these two years' work has more than fulfilled the most sanguine expectations of our founder and myself.

SOCIÉTÉ FRANÇAISE D'HORTICULTURE DE LONDRES.

THE annual dinner of the above society, held at the Imperial Restaurant, Strand, on Saturday last, was attended by about fifty members and friends, and proved to be a most successful gathering. M. Louis Gentil, superintendent of coffee and cocoa estates, Equatorville, Congo, now home on leave, presided, and was supported by Messrs. C. Harman Payne, Bevan, P. Waerer, E. T. Cook, Hugh Pettigrew, H. J. Cuthbert, H. J. Jones, G. Schneider (president of the society), G. Tivey, Otto Hickie, Fardell, Gaskell, and many others.

M. Schneider, in opening the proceedings, said how pleased they were to have M. Gentil with them on the present occasion. He had come over expressly to join them from Belgium, where he was now enjoying a well-earned rest from his arduous work in tropical Africa. M. Schneider mentioned that the society was in a flourishing condition, and continued to be of valuable assistance to young French gardeners in enabling them to obtain situations in England. English members desirous of going abroad also are aided in a similar manner. Periodical meetings are held in London, when papers dealing with the various branches of horticulture are read and discussed. M. Schneider appealed to those present to do their utmost for the welfare of the society, so that it might continue to promote the interests of horticulture both in France and in England.

M. Louis Gentil, in replying, said it gave him great pleasure to be once more amongst his friends and colleagues of the society, of which at one time he had the pleasure to be secretary. He was glad to know from M. Schneider, whose services for the society were very real and much appreciated, that they still continued to prosper. Since leaving England he had had a valuable and varied experience. For three years he had lived in a tropical country almost on the Equator; throughout a very trying time he found that the qualities of self-control, patience, self-reliance, &c., that such a society as theirs tended to promote, had stood him in good stead.

The toast of the English horticulturists was replied to by Messrs. Cuthbert, Bevan, and H. J. Jones, who expressed the pleasure it gave them to be able to take part in such an enjoyable evening. Mr. Bevan remarked how much appreciated a similar English society would have been in France when it was his fortune to live there before the war. The toast of the English horticultural press was given by M. Guillane, who referred to its value as a medium for all those interested in gardening. Mr. H. Thomas, of THE GARDEN, replied in French.

Several other toasts were proposed by various French members, and agreeable music contributed by the company helped to pass away one of the most successful annual meetings in the history of the society. During the evening a presentation was made to M. Schneider as an appreciation of his valuable efforts on behalf of the society, which he was the means of bringing into existence, and has worked hard for ever since. Several new members were enrolled on Saturday. Further information will gladly be supplied to anyone interested by M. Schneider, 17, Field Road, Fulham, S.W.

ANNUAL MEETING OF THE NATIONAL DAHLIA SOCIETY.

THROUGH the kindness of the Horticultural Club, the annual general meeting of this society was held in the club room, Windsor Hotel, Westminster, on Tuesday afternoon, January 8. Some twenty members attended, the severe weather no doubt keeping many away. Mr. Edward Mawley occupied the chair, and he was supported by Mr. C. E. Wilkins, treasurer, and Mr. J. F. Hudson, honorary secretary. The minutes of the previous general meeting being taken as read, the secretary read the committee's report, a *résumé* of which we gave last week. The treasurer's statement showed that had the Crystal Palace grant, with a few special prizes owing, been paid, the total income, inclusive of a balance in the bank left from last year, would amount to £180 16s. 5d., and the total expenditure to £181 15s. 9d., thus showing a deficit of about 19s. Considerable surprise was expressed that the Crystal Palace Company had not paid their customary grant of £50, as many prizes still remain unpaid. The chairman, however, stated that as the grants to the National Rose and Carnation Societies had been paid, no doubt their grant would soon come in.

The report and financial statement was then unanimously adopted. The schedule rule committee, in preparing for the ensuing season, had reduced the total prize money offered by some £20 in order that a more satisfactory balance sheet might be presented next year. It was also mentioned that considerable effort was being made to induce the Crystal Palace Company to approve of a one day show only, as the expenditure caused to exhibitors by a two days' exhibition was not compensated for by the small amounts offered in prizes. It was pointed out that one day shows of Roses and Carnations were held at the Palace and seemed to answer remarkably well. The wish expressed in the report that a late exhibition of Dahlias, especially to deal with seedlings, be again held, with the approval of the Royal Horticultural Society, was cordially re-echoed by the members; but complaint was made that flowers were last year placed before the floral committee and that of the Dahlia Society which led to some inconsistencies. It was agreed to avoid any such mistake in the future, that the Royal Horticultural Society be invited to appoint a sub-committee from the floral committee to act with the Dahlia Society's representatives, and thus to allow certificates of both societies to be awarded to flowers jointly.

It was also asked that the Royal Horticultural Society be invited to publish the date of the proposed Dahlia exhibition in the Drill Hall in September next in their schedule of arrangements for the year. For several years the society has published in the schedule a list of the best sixty Cactus Dahlias in commerce. This was necessitated when so many varieties were offered as Cactus Dahlias that were too coarse to merit such a title. It is now assumed that the general public know full well what features constitute a proper Cactus Dahlia, and henceforth the list will be omitted; but a catalogue of the best varieties in the respective sections will be issued as hitherto. In relation to the condition imposed on societies desirous of affiliation that they shall offer at least £10 annually as Dahlia prizes, it was, after a long discussion, agreed to reduce the sum mentioned to £5. It was hoped that many provincial societies may thereby be induced to affiliate to the National Dahlia Society. Some discussion arose over an amendment proposed to Regulation 11 that members only may exhibit at the society's shows. That was, however, ultimately agreed to. The present method of exhibiting seedling Dahlias was commented upon and condemned. It was, however, resolved that the matter be left to the committee to deal with. As all admitted that the present plan was unsatisfactory, a proposal to omit Dahlia foliage, with Cactus flowers shown singly in boxes, was much discussed, the ground of complaint being that the foliage soon flagged and became objectionable. Ultimately, because the voting was even, the motion lapsed. It was resolved to eliminate the epergne class from the schedule and substitute for it baskets of Dahlias, the flowers to be in water, and for which the president offered special prizes. Finally the schedule, with trifling amendments, was adopted. Mr. Mawley, Mr. Wilkins, and Mr. J. F. Hudson were re-elected to their respective offices. The new members of the committee are: Messrs. Brousson, A. Dean, J. Green, H. J. Jones, and the Rev. G. G. Pearse. That body now numbers twenty-nine. A cordial vote of thanks to the chairman, and also to the Horticultural Club, closed the proceedings.

ROYAL CORNWALL AGRICULTURAL ASSOCIATION.

THE next annual exhibition in connection with the above association will be held at Bodmin on June 11 and 12.

THE GARDEN.

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[JANUARY 26, 1901.

QUEEN VICTORIA.

(DIED JANUARY 22.)

WITH all England we have waited in sorrowful suspense, praying, though scarcely daring to hope, that our beloved Queen's life might yet awhile be spared.

Now the blow has fallen, and the country mourns, not its Queen alone, whose rule has been the longest and wisest of any of Britain's sovereigns, but the truest of friends, the noblest and tenderest of women, who, in her extreme age, has not sought to spare herself, but had added to her daily anxieties and cares of state severe voluntary fatigues such as must have told heavily upon the strength of one whose days already numbered more than make up the allotted span of human life.

For her example of devotion to duty, and for a pattern of womanly goodness, we who have been born and have lived many years in Victoria's reign may well be thankful, for we not only treasure the remembrance of what her reign has achieved for England, but as proudly bear in mind her numberless acts of warm sympathy and simple human kindness.

It seems only the other day that we heard of the Queen sitting by the bedsides of her wounded soldiers, saying to each a word of sympathy and kindness, and mourning the many deaths of those who had fallen in battle. Now she has yielded up her own life in her country's service, having borne up to the last and only laid down her work when the wearied frame could no longer obey the dauntless spirit.

So has she given her life for England, and died upon the field of honour; and so, winged by the loving prayers of her faithful people, the brave and pure soul of our great Queen has returned to the God who gave it.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

As will be seen from our report of the annual meeting of this excellent institution, the committee "have again the privilege of congratulating the members and subscribers on the continued success which has attended the work of the institution during another year—the last one of the century." We are thankful that an institution promoting a work so charitable and necessary is able to increase the sphere of its good actions through the liberal contributions of those interested in its welfare. The annual meeting, presided over

by Mr. Harry Veitch, was better attended than is the rule at annual gatherings of this kind, and this points to a thoroughly wholesome condition of affairs, showing that interest in the institution is sincere. It is interesting to know that at the commencement of the year there were 179 persons—ninety-eight men and eighty-one widows—who were receiving permanent aid of £20 and £16 a year respectively. During the year twenty-one of these pensioners have passed away—fourteen men and seven widows. Of the men five left widows, whose circumstances were of such a nature as to permit the committee placing them at once on the funds at £16 a year in accordance with the rules. Thus at the close of the year there were sixteen vacancies, and with the seventeen additional pensioners at the annual meeting and election, held on Tuesday, the total number of pensioners for life is 180—the largest number on the funds of the institution since it was founded. With regard to finance,

"The committee are much gratified to be able to report that, notwithstanding the heavy demands made upon the benevolent public during the past year, the income of the institution has been well maintained, enabling them to continue and increase their operations without the anxiety which must necessarily occur with diminished funds. For this happy result the committee gratefully offer their sincere thanks to all the friends and supporters of the institution throughout the country. They would, however, remind their friends of the increased liabilities incurred in adding to the number already on the funds, but they confidently appeal for continued effort on the part of their many friends and supporters, so that the work may be in no wise curtailed.

"The Victorian Era Fund is more than ever a source of invaluable assistance to unsuccessful candidates—who have been subscribers—whilst awaiting election. During the year now closed the sum of £99 has been distributed as follows:—Mrs. Baxter, £5; J. Gibbons, £10; J. Jefferies, £10; G. Marlow, £10; W. Smith, £10; G. Wills, £10; T. Kirkby, £8; Mrs. Hackwell, £8; S. Mills, £8; Mrs. Wighton, £8; Bird Porter, £7; J. Thatcher, £3; W. Gould, £2. And the thankful letters received from the recipients unmistakably show how much the help was required and with what gratitude it has been received.

"The Good Samaritan Fund—established in 1899 for the purpose of dispensing temporary relief in urgent cases of trouble and distress—has enabled the committee to grant gratuities in two cases, and as the fund has been augmented during the past year by £560, and although the interest alone from the fund is available, they are hopeful that they may have the means at their disposal for alleviating, if only temporary, many sad cases of distress which come before them. They again earnestly commend this fund to those friends who are in a position to afford it their practical sympathy and aid."

Other interesting points in last year's work are touched upon in our account of Tuesday's proceedings. We hope that the present year

will show an even greater outpouring of contributions for gardeners and their widows in distress towards the close of their lives. It is a deserving charity in the truest sense, and for fifty years—since 1851—the Queen was patroness.

ORCHIDS.

HYBRID ORCHIDS.

THREE remarkable Orchids have recently flowered in the Woodlands' collection, which are beautiful, distinct, and particularly worthy of notice. They are probably quite the best in their respective classes.

ODONTOGLOSSUM HARVENGTENSE

is a rare and very beautiful natural hybrid between *Odontoglossum crispum* and *O. triumphans*, the variety under notice being perhaps the best yet seen. The inflorescence, size, and contour of the flowers remind one of a superior variety of *crispum*, but the colouring is totally different. The ground colour of the flowers is a clear soft yellow, brightest and deepest on the apices of the segments; the broad sepals each bear two large bar-like blotches of deep chestnut-red. The petals overlap the sepals, and only differ from them in colour by having one instead of two blotches. The lip has the basal portion entirely of a soft creamy white, broken by a deep yellow forked crest, in front of which is a large, nearly square, purple-red blotch; the edges are minutely dented, and the extreme point heavily convoluted. The anther cap is dark purple-red, and below on either side of the creamy white column is a small circular purple-red spot. There can be no doubt as to the parents of the plant, a fact the more interesting as formerly this natural hybrid was supposed to be between *crispum* and *luteo-purpureum* var. *sceptrum*. *Odontoglossum triumphans* was said never to occur with *crispum*, but late importations have disproved this, and collectors say that there is one portion of the territory yielding triumphans which merges into the *crispum* district. Artificial hybrids have also been raised between *crispum* and triumphans and given the name of *Odontoglossum loochristiense*, and though inferior in beauty to the present form they certainly prove its parentage.

CYPRIPEDIUM HECTOR MACDONALD.

Cypripedium hybrids at the present day are almost innumerable, and additions are constantly being recorded, but there is still ample scope for the hybridist in this genus, as the striking beauty of this hybrid proves. Exacting as Mr. Measures' criterion is, this noble flower comes very near to the ideal. The parents, *C. leeanum giganteum* crossed with *C. hirsutissimum*, must evidently have been superb forms. The large-hooded dorsal sepal is as large as in the parent *leeanum giganteum*, and gains added substance and colour from *hirsutissimum*. On either side of the intensely purple median line, extending from base to apex, is an area of soft purple and white, the whole zoned with a broad margin of pure white. As in all the hybrids of *hirsutissimum* the outer portions of the

petals are bright mauve-purple, but in this cross both segments are very broad; the finely-shaped pouch is clouded purple, and the staminode is purple, with a central yellow blotch. The vigour of this hybrid is shown in the luxuriant foliage and the height and strength of the flower-spike.

CATTLEYA KITTY LLOYD

was pointed out to me at the Woodlands as a new hybrid derived from *C. velutina* hybridised with *C. Rex*, and now flowering for the first time. Certainly its fitness for a prominent position, even in such a collection as that of Mr. Measures', cannot be questioned, and in all probability its full beauty will not be developed until the next flowering season. In shape the blossoms are most comparable to those of a large form of *Lælio elegans* or to those of *Cattleya Maroni*, the hybrid between *velutina* and *aurea*. The broad labellum is bright amethyst, striated and margined with white, slightly recurved at the apex; the side lobes are white, tinted with purple-rose, and fold over the column, while the throat is daintily lined with yellow and old gold and brown. In striking contrast to the lip are the sepals and petals; these are equal in size, charmingly undulated at the margins, and of a soft chrome-yellow tint approaching white, prettily reticulated with rose-puce veins, and slightly flushed on the extremities and margins with rose.

NOTES OF THE WEEK.

Mr. Thomas H. Mawson informs us that he now has a London office at 28, Conduit Street, Regent Street, W., in addition to the Hazel-wood offices at Windermere.

***Sisyrinchium striatum*.**—I found this plant in considerable numbers when I came here, and, although it has been kept well within bounds, a small stock is still retained, principally because it is one of the few things that will adapt itself to any soil and situation. It is an admirable plant for any poor borders, and under such circumstances alternate clumps of this and *Antirrhinum* make a brave show. In stronger soil it is more lasting, and will continue in flower nearly all through the summer. It is a weed in the matter of increase, seeding and springing up in all directions.—E. B.

National Chrysanthemum Society.—An adjourned meeting of the executive committee was held on Monday last at Carr's Restaurant, Strand, Mr. T. Bevan presiding. A telegram expressing sorrow at the illness of Her Majesty was resolved to be sent, and a letter to Lady Saunders expressing the hope that Sir Edwin, the society's venerable president, might also be speedily restored to health. A letter of condolence was also directed to be forwarded to Mr. George Gordon on the occasion of his recent bereavement, Mr. Gordon's active services in the society being well remembered and appreciated. A letter was read from the Alexandra Palace notifying that their hall could be let for flower shows. Final arrangements for the annual meeting were made, recommendations of proposed officials, suggested alterations of rules, &c. The election of new members closed the meeting.

Veitch Memorial Fund.—At a meeting of the trustees held on the 15th inst. it was decided to place at the disposal of the Glasgow and West of Scotland Horticultural Society two Veitchian medals and two prizes of £5 each, to be competed for at the exhibitions proposed to be held by the society in connection with the Glasgow International Exhibition of 1901. They also decided to place a medal and £5 at the disposal of the Wolverhampton Floral and Cottage and the Taunton Deane Horticultural Societies to be competed for at their respective summer shows. It was further decided to offer a large Veitchian silver medal to Mr. R. Irwin Lynch, A.L.S., curator of the Cambridge Botanic Garden, and to Mr. W. B. Latham, curator of the Birmingham Botanic Garden, in recognition of the eminent services rendered by them to horticulture.

The Winter Sweet.—The first flowers of

the Winter Sweet opened this season at the end of November, and it is still (January 14) full of bloom. Intending planters should endeavour to secure the variety *grandiflorus*, as this is greatly superior to the type, individual blooms being nearly twice the size, the petals of a much deeper shade and of greater substance. It is, unfortunately, difficult to obtain, and is only to be found in those nurseries where flowering trees and shrubs are a special feature. Our plant is probably one of the largest in the country—it fills a little over 300 square feet of wall. Strong shoots are annually thrown up from the base, and from these I have secured a fair amount of plants, a few being layered every year in prepared soil. They have to remain a couple of years before removal from the parent, the formation of sufficient roots to enable the young plants to shift for themselves being a very slow process. Occasional bushes in shrubberies are an interesting and somewhat novel feature. When the flowers are in considerable request (and I have always found them acceptable) it is advisable at the approach of severe weather to fasten a bit of tiffany or canvas to some stout laths and protect the plant with these, making the bottom end of the lath fast in the ground and securing the top to the wall; the duration of flowers suitable for supplying the demand is thereby considerably prolonged. Severe frost or a heavy fall of snow will destroy the flowers.—E. BURELL, *Claremont, Surrey*.

Apple Royal Late Cooking.—A new Apple that promises well is Royal Late Cooking, and, though it has been grown for years at the Royal Gardens, it is not so well known as its merits deserve. I was strongly impressed with this fruit when staged before the fruit com-

mittee of the Royal Horticultural Society early in 1896. It is a delicious Apple when cooked. I am not quite sure that the term late cooking is the best, as some very fine fruits kept late were much liked for dessert last season, but that is a small matter. So far I have only seen bush trees, but I find it is equally good grown as a standard. In bush form it is one of the best croppers in a young state. The fruits are greenish yellow and large, with a pleasant acid flavour. It certainly thoroughly deserved the award given it at the date noted above. Though there are plenty of good cooking Apples we have none too many late kinds, and those that crop freely are more valuable.—G. W.

Carnation Sweet Primrose.

—We received recently flowers of this beautiful new winter-blooming Primrose from Messrs. H. and J. Elliott, Court-bushes Nursery, Hurstpierpoint, Surrey, the raisers. The accompanying photograph shows its general habit of growth; it is very strong, and bears a profusion of soft primrose-coloured, sweetly-scented flowers. We quite agree with the raisers' description of it: "A most charming variety, producing its blooms in great abundance all through the winter; in fact, all through the year." We also received a photograph of another good variety (Brightonian), which has crimson flowers, sweet, and produced freely in winter.

Buddleia Columbiæ.—For the past eight years I have cultivated in my villa garden at Golfe Juan a pretty *Buddleia* that is covered with numerous bunches of pure white flowers every year. I have been unable to discover it amongst the 150 species or synonyms of *Buddleia* that are published to-day, of which one may rely upon 106 as being distinct species. Its native country is not definitely known. The plant that I have germinated amongst seeds received from different regions of South America, the locality not being designated. To judge from its habit of growth, which recalls that of the South Australian *B. salviafolia*, a species with greyish white flowers found here and there in the gardens on the Mediterranean coast, notably at Cap Martin, near Mentone, it certainly comes from a temperate region. *B. Columbiæ*—this shall be its name if the species is nowhere described—is a bushy shrub, with erect, slender branches, drooping at their apices, and long, linear, lanceolate, acuminate, smooth leaves, the upper surface pale green. The terminal bunches of flowers are pendant, like those of *B. lindleyana*; they are very long, and composed of numerous flowers, with short green calyces, pointed sepals, white tubular corollas, the lobes being broadly oval. The appearance of this shrub is pleasing and elegant, and produces an agreeable contrast with other ornaments of the gardens of the Riviera. It has the inconvenience, for those who pass the winter on the Mediterranean coast, of not coming into flower until spring, when visitors are preparing to leave for the north. But for those who stay longer *B. Columbiæ* will offer the charm of a prolonged flowering season, for its bunches appear over a long time.—ED. ANDRÉ, in *La Revue Horticole*.



CARNATION SWEET PRIMROSE.

Horticulture in a Scottish University.—The introduction of horticulture into the University of St. Andrew's is a distinct innovation. In opening a course of lectures on horticulture there the other day, Dr. John H. Wilson, the lecturer, pointed out that the oldest Scottish University is particularly well suited as a centre for instruction in horticulture, and expressed the belief that before long a fully-equipped school would be established there.

How to raise Begonia Gloire de Lorraine.—So much is written about the difficulty of obtaining cuttings of this suitable for striking, that the proper way appears to be entirely overlooked. Every leaf will form a plant if treated in the same way as the Rex type. A plant which will not produce a single good cutting can be made the source of twenty or thirty good plants by striking the leaves. When good cuttings appear we use them; if not, we use the leaves, and, although these are slower in producing good plants, they have ample time during the growing season, and our supply of plants is unlimited. Surely this must be well known to growers, but I have never seen it mentioned, nor do I know anyone who has attempted it except those who have seen it done here.—THOMAS FLETCHER, Grappenhall, Cheshire.

Schizanthus in pots.—For early spring flowering the diverse forms of the *Schizanthus* grown in pots and given cool house shelter are very beautiful. Many lovers of hardy plants will remember the beautiful group of *Schizanthus Wisetonensis* staged at the last Temple Show. The delicate shades of white, rose, and crimson, and the well-grown plants were a special feature. With even the older forms there are some beautiful things for spring flowering. I have for many years sown the older *S. pinnatus* forms for this purpose, and with the advent of *Grandiflorus*, a larger form, there is no lack of good material, and the plants are grown so easily from seed sown in the early autumn. Grow the plants near the glass in cold or slightly heated frames or on shelves in houses through the winter. We sow in small pots and grow on until the plants need 8-inch pots, and from the start grown as cool as possible. There is no gain in crowding the plants as they soon become drawn. If several seeds are sown the seedlings should when large enough be thinned to the strongest, not allowed to get pot-bound, and when repotting give good soil, but pot firmly to build up a sturdy growth. When in flower they last a long time.—G. W. S.

Tomato Winter Beauty.—A couple of seasons ago I noted the value of this Tomato for winter cropping as some very fine fruits were shown at that time. In April, 1899, an award of merit was given it as a winter-fruiting variety, and it has proved worthy of the award. It has few equals as regards winter-cropping. There are other kinds that are more handsome, the one in question not being quite smooth, but this does not detract from its good quality. The flavour is excellent; indeed, equal to a good summer Tomato. Winter Beauty sets freely late in the autumn and will ripen up its fruit in winter. I do not advise sowing too late for winter supplies. As most growers are aware, in our variable climate setting is difficult in midwinter, but if the fruits are formed earlier they finish well. For first crops early in the year this will prove an acquisition, as it sets its fruit quite close to the soil, is a dwarf grower, and soon ripens up the fruits that are formed at the base.—G. W.

Coleus Mahoni.—This is another new *Coleus* from British Central Africa, the home of *C. thyrsoideus*, and for which Kew is indebted to Mr. John Mahon, who, whilst filling the post of Government forester in that country, collected and forwarded to Kew a considerable number of plants that are likely to prove of horticultural merit. Although *C. Mahoni* is not as attractive in flower colour as the lovely blue *C. thyrsoideus*, it has a better habit, and it flowers freely in midwinter. The flowers are in erect, rather loose racemes, 6 inches or more long, and they are purple in colour. Probably the two species, if crossed, would yield good hybrids, and we may yet obtain a race

of *Coleuses* as varied and valuable for their floral attractions as we already possess from another section of the genus in leaf characters. A third species, unnamed, also from British Central Africa, and remarkable for the cobalt blue of its flowers and the aromatic odour of its leaves, is also in flower at Kew. These three species may be grown along with *Chrysanthemums* in summer, and like them wintered in the greenhouse, where they will flower after the *Chrysanthemums* are past.—W. W.

Apple Christmas Pearmain.—For use in midwinter, few dessert Apples are superior to the Christmas Pearmain, the variety named above. Being of recent introduction it is not so well known as it should be, but it is a most useful fruit, being in season from December to the end of February. New fruits should be of good quality, and this is especially so. It is of medium size, with a dull scarlet colour on the sunny side, with russet markings, and, what is so important to small growers or amateurs, the trees rarely fail to crop; they are also shapely and do well in any form, though it is only fair to say our best fruits have been secured from bush trees on the Paradise stock. Grown thus this variety makes abundance of fruit spurs and fruits very quickly after planting. So far I have not seen a trace of canker or disease. This variety was sent out in 1895 by Messrs. Bunyard, and it is a most useful introduction, as it succeeds the well-known Cox's Orange, the queen of dessert Apples.—G. WYTHES.

AMATEURS' PERPLEXITIES.

PLANTS FOR SUMMER FILLING OF TUBS.

IN reply to "Rose Beetle," tub No. 2, with Giant Tobacco and *Petunias*, would hardly want a third kind of plant, though *Heliotrope* might well be used as an alternative to *Petunia*. In addition to this and the others named, you could have *Cannas*, with scarlet or dark-coloured trailing *Nasturtium*, young plants of *Plumbago capensis* with *Cineraria maritima*, *Fuschia Mme. Cornellison*, with red or pink *Verbena*. The variety of *Canna* is so great that they might serve for more than one tub. *Hollyhocks* are beautiful in tubs where there are many to be filled, and they can have some relation to architecture. *Dahlia Fire King* should be a good tub plant.

Italian oil jars are difficult to manage on account of the small diameter of the opening, but there is no reason why *Datura Wrighti* should not do well. It would of course need greenhouse treatment in winter. It would probably do better in a tub. Excepting *Cannas*, permanent tub plants are handsomer than the less important summer-flowering plants. The best (other than Orange, Oleander, Myrtle, and Pomegranate) are *Hydrangea hortensis* and *Agapanthus*, but *Phormium tenax* also makes a fine tub plant.

WHITE SCALE ON VINES.

"W." writes:—"I should be glad if any reader of THE GARDEN who may have been troubled with, and who has been successful in exterminating, this pest from their Vines without injury would oblige by giving the details of their method of procedure. I have tried the usual remedies with only partial success."

[You can easily get rid of white scale now the Vines are at rest. We advise the following:—First remove all loose bark that is on the rods and that peels readily, then carefully scrape the joints with a blunt knife, of course having pruned the Vines before the cleaning process begins. After the bark is removed, give the canes a thorough scrubbing—we mean the old wood—with warm water and soft soap, to which has been added some soda, and brush with a soft scrubbing brush. When dry, paint the Vine rods with the following: $\frac{1}{2}$ lb. of flowers of sulphur, $\frac{1}{2}$ lb. soft soap, and sufficient water to mix and make it into a thick paint. Apply this to every portion or crevice of the cane and well rub it into the joints. Failing the solution advised, we have found a wine glass full of petroleum $\frac{1}{2}$ lb. of soft soap, and $\frac{1}{2}$ lb. of sulphur, all

mixed together to the consistency of thick paint, an equally effective dressing, but the petroleum is injurious if not thoroughly mixed. Whatever is applied must be done well, and a great deal of the success is owing to the cleansing of the Vines before the dressing.—Eds.]

GARDENING OF THE WEEK. KITCHEN GARDEN.

PEAS.

A GOOD sowing may now be made with comparative safety on a well-prepared south border, selecting dwarf varieties for the purpose as less likely to suffer from the effect of cold wind in March and April than tall-growing sorts. Young Pea plants will, under certain circumstances, bear considerable frost without injury, but they can ill withstand a cold, harsh wind. As soon as the young plants are through the ground give protection from wind by drawing the soil up as high as possible on each side of the row. Stake closely as soon as ready, introducing a few evergreen branches to help protect the plants. Where space and pots are available, a sowing may now be made to produce Peas about April 20. Eight-inch pots are quite large enough, and should be half filled with good rich loam, covering the seed with 1 inch of the same soil. Nothing approaching a high temperature or close atmosphere must be allowed, or failure is sure to follow. A late Peach house or similar cool quarters will suit them admirably. Weekly sowings made in pots from now to the end of February should afford an occasional dish of Peas from April 20 until they can be gathered from those sown under the shelter of south walls a month ago. Harbinger is one of the best dwarf varieties for pot culture.

CAULIFLOWER.

Sow seed of Cauliflower in boxes or pans, and place in a house or pit with a temperature of 50°, to follow as closely as possible those sown in the autumn. Extra Early Forcing and Snowball are the best for the purpose. As soon as the young plants have made their first leaf they should be pricked off into boxes or pits according to the number required, using loam and leaf-soil in equal parts. Give all the light possible, and air in increasing quantities, until they are quite hardened off and ready to plant out in the beginning of April. A rich, deep soil, with an abundant supply of water, and an occasional dressing of some stimulating manure, will enable them to complete their growth in the shortest time possible.

CABBAGE.

The autumn plantation having grown to such an advanced state in consequence of the mild weather would suffer severely in case of sharp frost. A sowing should now be made of some approved early variety for planting out as soon as the time comes. They should receive the same treatment as that advised for Cauliflower.

LARGE ONIONS.

Where extra large Onions are desired, a sowing should be made at once in light, rich soil, either in pans or boxes, and placed in a temperature of 45°. Water gently after sowing, which should be all that is required until the seeds germinate, when they must be watered carefully to avoid damping. As soon as the plants are large enough prick off, either singly into small pots or into boxes 3 inches apart, and keep as near the glass as possible in an increased temperature of 55°, with a little air night and day. The aim of the cultivator should be to keep them as sturdy as possible. As soon as strong enough they may be removed to a cold frame, and kept rather close for a few days, when they may be gradually hardened off until ready to plant out, about May 1, in ground well trenched and manured for the purpose in one of the best positions in the garden. Choose a showery day for the purpose if possible, and take care not to break the young root more than can be avoided. Plant in rows 15 inches apart and 1 foot from plant to plant.

After they have taken possession of the soil they should receive occasional dressings of soot and guano, thrown broadcast over the bed and well washed in with a watering-pot, unless the weather is showery. These dressings may be kept up until the end of July, when they must be discontinued, or many of the bulbs will split. JOHN DUNN.
Royal Kitchen Garden, Windsor.

INDOOR GARDEN.

CROTONS (CODIÆUM),

forming as they do one of the most serviceable of our stove plants, must have attention now. I advise the following practice where smart table plants are required. It follows that plants which have been doing service in the mansion must have lost several of their bottom leaves. The bark, say, a quarter of an inch in width, should be removed round the entire stem, at a point where the leaves are intact. No fear need be entertained of the plant suffering from this seemingly cruel method, for in about three weeks from the date of removal a slight swelling occurs on the upper edge of the wound, when a little sand and leaf soil encased in damp moss should be firmly tied round, from which in the course of a week or so roots are emitted. When it is seen that sufficient roots are attached the top should be deftly cut over, the moss carefully removed, and the rooted plant placed in a small pot and plunged in a good bottom heat, kept close, and syringed for a few days. This is known as ringing, and I have always had the best results from it. Should it be desired to increase the stock of any variety, then the stool must be retained, well shaken out when root action is actively resumed, kept moderately dry at the root, but liberally syringed, when side growths will soon appear, which may be rooted in the ordinary way. The finest sorts for exhibiting as table plants are *Superbum*, *Angustifolium*, *Cheloni*, *Prince of Wales*, *Countess*, *Golden Ring*, *Rodeckianus*, *Aigburth Gem*, and *Interruptus aureus*.

DRACÆNAS.

These, from their association with the foregoing, must take next place for general usefulness, and should also be dealt with forthwith. Here, however, the notching and splitting of the stem should be practised. This done, damp moss and a sandy mixture should be immediately tied round, the foliage secured to a stick, and the plants stood close together at the cooler end of the plant stove. *Cyclamens* which were sown in the autumn will now be sufficiently forward to permit of their being placed in pans in fresh soil and very liberal drainage, placing the seedlings about 2 inches apart; a temperature of 60° by night and 65° by day will be suitable. Just at present a house in which pot Vines are being forced is an admirable station for them. Liberal syringings must be given, and should green fly make its appearance then they should be removed to another structure and fumigated. There is, however, little fear of this if suitable conditions are afforded.

BEGONIA GLOIRE DE LORRAINE.

We have seen so much of this subject of late years, and each year in finer condition than formerly, that in every garden I hope there is a good stock of this charming plant; the best results in this as in many other things are obtained by taking time by the forelock. Propagation by leaf and cuttings should at once be made; the former should be placed round the edges of ordinary seed pans, which have been half filled with drainage, over which should be placed a layer of moss; sand and cocoa-nut fibre refuse will form a suitable rooting medium; insert the leaf stalks about half an inch, and care should be taken that the leaf does not come into contact with the soil, as damping from the frequent syringing is sure to follow, especially is this so at this early date. The new *B. Caledonia* should be similarly treated; this, however, has not the constitution of the older pink type, but I am of opinion it will go in stamina as it recovers from the strain of severe propagation. Seed of *Begonias*, double and single, should also be sown. A very fine surface is required, and the pans should

have the benefit of a close propagating case, and a sheet of glass should be placed over each pan, as this, besides retaining a genial and equable condition, prevents the inroads of insects which disturb the surface.

ZONAL PELARGONIUMS

having finished their flowering season should be cut over, a fresh stock put in, and the stools if not wanted thrown away; the stage and show sections should be stationed in a house where abundance of light and air is admitted. An atmosphere slightly moist suits these subjects admirably; the earliest cut back plants should have made a good start, and may therefore be turned out, the balls reduced and repotted in pots one size larger than those in use last flowering season. Good tough fibrous loam, with a little horse manure, soot, and dissolved bones, forms a suitable compost. Green fly is sometimes troublesome, but a mild fumigating once fortnightly will keep this enemy in check.

GLOXINIA.

A few of the strongest corms should be turned out duly potted and started into growth; to prolong the season of flowering as much as possible, a moderately rich light compost is needful, that made up as follows being in my opinion all that is required: Loam, two parts; peat, one part; and the remaining part being made up of Mushroom manure, sand, and leaf soil; to each bushel of this add a 4½-inch pot full of Clay's Fertiliser and a 6-inch pot full of broken oyster shells. Water must be withheld until a fair start is made, when enough to saturate the entire root and soil should be afforded.

Roehampton.

J. F. McLEOD.

THE FLOWER GARDEN.

TREES AND SNOW.

WHEN snow falls heavily unaccompanied by wind it often lodges on Cedars and other flat-branched conifers in such bulk as to strain them to breaking point, unless means are taken to relieve them of some of the weight. Many of the most valuable conifers have brittle wood, and these at least should be relieved by shaking the branches with long poles. I do not advise this to be done except in cases of a very heavy downfall, as a covering of snow, if not too heavy, does more good than harm to such things as the *Deodars* and some others which are liable to be seared with biting winds accompanied by frost.

RABBITS AND FIELD MICE.

In snowy weather these pests often do great mischief in the way of barking valuable shrubs in the pleasure grounds. Rabbits can only be kept out by netting, unless the grounds are protected by a sunk fence of sufficient depth to prevent them from jumping it. The netting should be frequently looked over for holes and kept in good repair. Drifting snow often congregates about the netting, and forms a platform over which the rabbits may easily gain access to the grounds. This should be seen to after each fall, and the snow thrown back. Field mice are much given to barking *Hollies* and allied shrubs. They should be dealt with in two ways, viz., by trapping all that can be caught in pitfalls dug in their runs, which may be easily found, and by protecting the stems of the shrubs. For the latter purpose I have found nothing so practical and harmless as twisting round the stems and lower branches strips of ordinary fish netting, which may be held in position with a tie of fine tar cord. The netting appears to baffle the little pests and saves the shrubs.

ROCK GARDENS, &c.

One great objection to the ordinary form of rockery, with its numerous and often times badly placed pockets, is that some of the smaller and slower growing occupants frequently become smothered by the stronger, until eventually the rock garden becomes more of a wilderness than a place for choice plants. The present is a good time in which to undertake the rooting out of some of these strong growing things, especially stoloniferous plants and those which increase by wide-spreading suckers. The pockets or stations should not be immediately

replanted, as it will be well to wait until spring, when living bits of root that would again grow and become a nuisance may be found and picked out before planting anything choice.

FLOWERING SHRUBS.

Though anything in the shape of formal pruning of these is to be deprecated, it often happens that a branch here and there takes a lead that will if not checked throw the whole bush out of balance and weaken the flowering branches. This is a good time to look well over the groups and beds, removing all such gross growths or portions of the same. *Hydrangeas* of the *paniculata* type and a few other shrubs that enjoy hard pruning should be left for a while longer before using the knife on them.

FEEDING COMPOSTS.

In beds and borders filled with permanent occupants, and kept clean with the hoe and the rake, remove the surface soil and leave nothing for the surface roots to feed on. Provision should now be made to counteract this by gathering together a heap of compost from the soil yard, mixed with any leaf-mould that can be spared and which is sufficiently decayed to be of use. This mixture may be run on to the beds and borders, also among groups of flowering shrubs, where it will encourage root action and good growth. Such mixtures form the best kind of stimulant that can be used as a surface-dressing outdoors. J. C. TALLACK.

Shipley Hall Gardens, Derby.

FRUIT GARDEN.

EARLY POT VINES.

THERE can be no question whatever but that pot Vines are best for hard forcing. I am aware that they do not give such good bunches or as large berries as from planted out canes, but for earliest supplies the Vines grown in pots can be had of fair quality, and if well attended to when the bunches are formed there will be fair results. Vines started in the autumn will now need more care, as with colder nights it is not wise to force too hard; if this be done the foliage will weaken and the berries be smaller in consequence, 60° to 65° at night will suffice, and a rise of 10° by day will maintain healthy growth. During the flowering period the house should be kept drier, but avoid overheating the pipes, and in severe weather cover the glass outside to avoid hard firing, and with small pits or houses a cover can be applied quickly. As soon as the fruit is set feeding may commence, but give rather weak supplies at first, also in a tepid state, and stop the lateral growth at the first joint beyond the bunches. Stop rather close all sub-lateral growths as they are made, as by so doing root action is increased and more strength is accelerated to maintain the bunches and foliage on the Vines. At the latter period named the atmosphere should be what is termed healthy. This will be maintained by damping at vacant parts of the house at least three times a day and by keeping the evaporation troughs filled, and as growth increases by placing part liquid manure and part water the moisture given off will keep down insect pests. Avoid rank manures, as these destroy the foliage.

PERMANENT EARLY VINES.

A great deal depends upon when these were started as regards the advice now given. For fruit to follow the pot Vines the canes will now be showing the bunches freely, and will need close attention. Avoid high temperatures unless by sun heat; the latter is beneficial, and should be husbanded as much as possible. A night temperature on cold nights of 60° will be ample till the Vines are in flower, when 5° to 10° more may be given, and 70° to 75° by day may be allowed by fire heat. Much the same remarks are applicable as regards moisture as given for pot Vines, but with stronger canes, more foliage, and a larger root area, the roots will need more food of a stronger nature; for this purpose I have found Thompson's Vine manure safe and good, but there are others equally so, and liquid manure in a tepid state will be good as soon as the bunches are of any size. When surface-dressings of any fertilisers are given these should be raked

on the surface and then well watered in, but avoid puddling the border. Stopping and disbudding will now need attention. Strong shoots may be stopped at one point beyond the bunch and weaker ones given a little more freedom; any weak spray growths or shoots not needed for extension should be stopped close home, and there is no gain, indeed, the reverse, in leaving all the bunches that show flower, as this weakens the Vines. Remove surplus bunches as soon as it can be seen which are the best. In the case of bad setting varieties it is safer to allow more bunches than with others, such as Hamburgs.

EARLY MUSCAT GRAPES.

I do not advise hard forcing of these kinds, as to do them justice there must be ample light and sunshine at the setting period. I am aware many start a house at the beginning of the year, and the fruit

work is complete, the canes will be benefited greatly, and there is less harbour for insect pests. The canes when pruned as advised should be dressed with styptic as the cutting proceeds. A thorough cleansing of the house should be undertaken, walls lime-washed, loose bark of the Vines removed (not hard peeled), well watered with a sulphur and soft soap solution, the borders top-dressed with a rich loam and fertiliser, and the house freely ventilated, merely keeping the hot-water pipes from freezing in severe weather.

G. WYTHES.

Syon House Gardens, Brentford.

ROSE CLOTH OF GOLD IN SOUTHERN AUSTRALIA.

THE Dean of Rochester sends the following letter from an Australian correspondent, with photographs showing a truly remarkable development of this grand Rose:—

“Very Rev. and Dear Sir,—Ever since my old friend and colleague, the late Edward Wilson, republished his ‘Book about Roses’ in the columns of the *Australian*, your works have been well known in this part of the world, and especially to my wife, who is an enthusiastic and successful Rose grower. Knowing the interest you take in the Queen of Flowers, she has asked me to send you a photograph of a Cloth of Gold, which she planted when we bought our house in 1879, and is now covered by not less than a thousand blooms, the largest averaging 5 inches in diameter. Its height is 23 feet 6 inches; its extreme lateral extension is 46 feet, and was 58 feet before it was cut back. The circumference of the stem 6 inches from the ground—where it ramifies into six great branches—is 2 feet 10 inches, and the circumference of the largest of these branches is 1 foot



ROSE CLOTH OF GOLD IN VICTORIA, AUSTRALIA.

will be ripe at midsummer; in this case the temperature may now be slightly increased, 55° to 60° at night and 10° higher by day, damping the Vines overhead regularly in fine weather. Should there be any doubt as to the border being dry, give a good watering before the leaves develop with water the same temperature as the house. Disbudding should not be delayed, and should the Vines break too freely at the top the canes should be gently lowered or bent down to check the flow of sap.

LATE GRAPES.

✓ In these houses there should be no further delay in cutting the bunches, placing the latter in racks or bottles on shelves and pruning the Vines at once. A long rest is essential to secure good fruit, and though full late to advise on shortening of long spur growths, this work must be done when these are unwieldy. If shortened by piecemeal, that is, a portion or a third of the Vine each year until the

7 inches. It has a northerly and easterly aspect, and, therefore, is exposed to the hot winds which will probably spoil its beauty next month, corresponding with the English May. We attribute its luxuriant growth, in part, to the fact that its roots spreading under the verandah and house in one direction, find congenial food in the lime and debris left there by the builders, while in another direction they penetrate to the clay subsoil, and absorb a good deal of the artificial moisture we are obliged to bestow upon our small lawns and flower beds during the whole of our very hot summer months.

“I know Italy pretty well, from Genoa and Como down to Naples and Capri, but I have seen no Cloth of Gold Roses there which are

capable of comparing with these which flourish in this country and climate, resembling as these do, I fancy, those of Persia.”

THE UNHEATED GREENHOUSE.

II.—ON TYPICAL COLD GREENHOUSES.

The unheated greenhouse may be represented by four distinct types, which can be classed as follows: 1. The glass garden. 2. The garden corridor. 3. The conservatory. 4. The ordinary span, or lean-to greenhouse. Under each of these heads a few remarks will be necessary.

THE GLASS GARDEN.

Under the somewhat clumsy name—for want of a better—of the glass garden it is intended to express the greenhouse adapted for the permanent planting of shrubs and climbers. It is, in fact, a garden in miniature, covered by glass, but requiring no interior furnishing, as of stands or stages, other than the plants themselves. The laying out of the beds, borders, and pathways must be controlled by the size of the structure and the kind of plants, be they shrubs or be they alpine, to be grown on it; but while the main planting is permanent, it can and should be so arranged as to leave ample room for the introduction of successional plants. This, in outline, is the idea of the glass garden; and while it may be the most ambitious, it is, perhaps, also the most delightful type of the cold greenhouse. Such a house may be of grand dimensions—an annexe, possibly, of one of the long ranges of glass houses to be found in many a stately garden, constructed chiefly for the winter protection of flowering shrubs and bulbs, and for the purpose of giving interest and enjoyment, together with a certain amount of exercise, to those who are debarred from taking an active share in the more vigorous pursuits of healthy outdoor English life.

It stands to reason, to begin with, that the construction as well as the planting of such a winter garden requires both judgment and good taste, and will give ample scope for the exercise of a thorough knowledge of suitable subjects. Here, too, is a case in point, where a cold greenhouse may reasonably be fitted with a single or even double flow-and-return pipe, as required by the size of the building, in connection with the main boiler, but so furnished with valves as to shut off all heat, except when absolutely needful to keep out frost or to put the air in circulation to prevent stagnant damp. It is not hard to picture a grand glass garden of this kind, large enough to give a permanent home to the flowering Acacias, Himalayan Rhododendrons, Boronias, Correas, and the like, which, though tender, live and flower profusely out of doors in sheltered positions in the favoured climate, for example, of the Isles of Scilly. It may be taken for granted that all shrubs and plants—and their name is legion—that will live happily in the open air in our southernmost counties are fit subjects to thrive well under the shelter of glass, assisted, in the hardest weather only, by just so much artificial heat as will suffice to prevent the thermometer falling below 35°. Any of us who have had experience of the difference in well-doing between plants grown in pots and those which receive the more generous treatment of the greenhouse border will readily understand the advantages offered on this point by the glass garden. Such a house should be under the charge of an exceptionally intelligent gardener, well instructed and interested in the cultivation of hardy and half-hardy plants, who will take a pride in making use of the heating apparatus as sparingly as possible. The idea, however, of a coalition between hardy plants and a glass shelter has hardly as yet permeated the minds of any but a few garden enthusiasts; but this slur will not long be cast upon English gardens. Kew has taken the initiative in the costly and splendid new wing which has been added within the last two years or so to the temperate range of glass houses, and it is there we must go to learn what may be done on the grandest scale in the glass garden. It is true that ample provision is there made for raising the temperature, but it is used only in case

of need, and we come upon frequent mention of the "big unheated greenhouse" in notices of plants in flower in the gardens. This covered-in garden with its rare and lovely shrubs and exquisite Lilies forms one of the most delightful attractions of Kew, which has so worthily earned, especially of late years, the appreciation and gratitude of all true garden lovers.

But we need not despair if, on the other hand, our winter garden must be of very modest character, and if our wish is to do without heating at all, even of the most temporary and removable kind. So be it. There is plenty of material at hand if one chooses without trespassing an inch upon dubitable ground, and quite as much pleasure and happiness to be gained in the use of it. I remember well the description of such a winter garden given in the pages of *THE GARDEN* perhaps twenty years ago. In it there were neither hot-water pipes nor heating of any sort to get out of order and worry the contented owner, who was, nevertheless, under no great concern for his plants even in the midst of the hardest of black frosts, for he took care to grow only such as could pass through it unscathed, and who revelled in the fairest of spring bulbs and early flowers long before the open garden could boast of more than a chance blossom here and there. Very few—more's the pity—have been found to follow so good a lead and attain as great a reward.

THE GARDEN CORRIDOR.

The unheated greenhouse may take on occasion the form of a glass corridor, and when this happens to be a lean-to passage way connecting garden structures, or outlying rooms, it may be, of a dwelling, it is the place of all others in which to grow specimens of the rarer flowering shrubs, such as *Carpenteria californica*, which succeed best when trained against a wall, and which are all the better for having their root room restricted by a narrow border. Sometimes a glass corridor may more conveniently have a span roof, as, for example, in cases where there is no carriage-way to the entrance of the house and more or less distance has to be crossed in bad weather before reaching shelter. A covered way, under such circumstances, though not in itself beautiful, is a boon to guests, and some method of making a simple glass passage of the kind presentable at small expense is no less a boon sometimes to the host. There are plenty of hardy climbers, like the finer kinds of *Clematis* and *Jasmines*, of *Ivy* and of *Vine*, not to speak of *Tea Roses*, which are the glory of the cold house gardener, to come to our aid, while a corridor is a most fitting place for *Agapanthus* or *Crinum Moorei*, or any such grand but unwieldy plants, which are best grown in tubs or in Italian pottery of the massive sort. The only wonder is, with such wealth of fine and easily grown plants of every kind and habit at command, that our glass houses should, even at this date, be so indifferently furnished as to variety, which the majority of them undoubtedly are.

But further discussion of suitable subjects for cold greenhouse treatment must be set aside for the present, and we must turn to the less ambitious types of glass house to be found in everybody's garden, which are mainly under the personal control of the owner, with or without the help of a gardener.

THE CONSERVATORY.

There are two forms of glass house common to the gardens of most country homes—the conservatory, which adjoins the dwelling, and into which one or more of the sitting rooms generally open, and the greenhouse, which finds its separate place, with more or less aptitude for its purpose, in the garden. Now "conservatory" is a pretentious name, and it might be wished that one more modest could be coined to replace it; but it would seem as if few folk were alive to the fact that conservatory and greenhouse are not convertible terms. Yet the difference between them is plain and well marked, a conservatory being a shelter where plants in flower may be shown and admired, while the greenhouse is the home and, at times, the hospital of plants in growth. Where only one of these exists, doubtless there must be some adapta-

tion to circumstances; but it can scarcely be too much insisted on that the conservatory is not intended to be turned into a working greenhouse, as is too often done. If it must be, then I venture to urge that it is better to draw a curtain between sitting-room and the inevitable dishevelment of the garden workshop, and to let a cheerful bay window, a glass porch, or any other convenient position receive the plants we have cherished when they are ready to be displayed in their beauty. The conservatory being, in fact, an ante-chamber or vestibule to the living rooms of the house, should be, equally with these, always in good order. One of the first considerations, therefore, is to keep it clean. This very trite assertion may provide a jeer, but only those who have held the reins of management in their own hands can have any idea of the way in which *débris* of withered leaves and fallen flowers accumulate, to say nothing of evil beasts in the shape of slugs and caterpillars, woodlice and centipedes, which stray in and hide under stages and in odd corners; and how important it is to keep clear of the unavoidable mustiness which comes of more or less perpetual damp. For this reason it is strongly to be recommended that a conservatory be used strictly for pot plants, that there should be no heavy fixed stages and no inside border for permanent planting of shrubs or climbers, in order that, at short intervals, the house may be emptied and thoroughly cleaned and rearranged. Stands or stages should be used mainly as aids in the grouping of plants, and the lighter and more unobtrusive and easily movable they are the better. These points are touched upon lightly here, for they must be reverted to later, and will very likely be regarded as fads; but experience teaches. Cleanliness and good order, with fresh, healthy plants, well grouped and not always in the same stereotyped position, go far to make even a small conservatory not only the joy and pride of its owner but a pleasure to all who see it. A conservatory of this kind, however, necessitates some sort of separate and extra resource to act as feeder to it, and this may be found in cold frames or pits, or in a working greenhouse, from whence plants may be brought, and to which they can be returned when their flowering is over.

THE WORKING GREENHOUSE.

The ordinary span or lean-to greenhouse usually finds its place in some corner of the garden, and generally is and ought to be furnished with a front bench and some sort of stage. The dampness and a certain amount of "undress" here is not out of place. One's plants are in their nursery, or, it may be, recruiting; pans of seedlings may stand about; Ferns may be tucked away under the stage; a *Maréchal Niel*, with its roots in an inside border, or any other climbers one may desire, can be trained up the rafters or on the back wall; and pruned back plants, however shabby-looking, need not hide

their diminished heads. What would be incongruous and unsightly in the conservatory is here natural and right. There is little, perhaps, to be said on so well-worn a theme for the present; but certain points of construction, important to be considered in putting up any of the types of unheated glass houses here spoken of, remain to be suggested. Only this let me add. It is the working greenhouse that is the best of all—the sanctum sanctorum of the gardener. Who but those who know it can fathom the peace, the rest, the depth of happiness to be found within its hallowed precincts. What marvels of plant life open out there to the patient observer, what strange vagaries of the germination of seeds, what mysterious processes in the germination of Ferns; what rare loveliness in the silent building up, leaf by leaf, of even the commonest plant; what exquisite art in the gradual laying on of colours and moulding of buds and flowers. Ave! but treasures such as these are only unfolded to the vision of the devout lover who thinks no toil too great that will unlock the cabinet of Nature's secrets; whose hand is not afraid to risk the roughness of daily tending; whose ear is awake to whispers so low that they are unheeded by idle passers-by; whose eye is quick to note the changes of an hour. Such reverent students learn to worship while they work, and to them, in the uplifting symbolism of Eastern speech, plants and flowers become, in very truth, as "the fringes of the garment of God."

K. L. D.

AMERICAN NOTES.

FRINGED AND PLUMED FLOWERS.

The recent tendency in the floral fashions seems to be strongly towards extravagant and fanciful forms. This is no new trend, but is merely accen-



PINUS CEMBRA.

tuated at present by the appearance of distinctly attractive vagaries of such highly-esteemed flowers as the Begonia and Cyclamen. Recent reference has also been made to "Cactus-flowered" Geraniums, and there are numerous other fantastic and more or less extravagant floral forms which claim attention.

The Cactus Geranium and the Butterfly Cyclamen have already been figured in these pages, and now we add to the list with the "plumed Begonia." The picture is given merely as a representation of floral fact and record. For our own part, we see but very little merit in perpetuating these extravagant monstrosities which appeal to the fancy merely from the fact that they are grotesque divergencies from the normal type of æsthetic simplicity.

What cultivation will accomplish in a flower time alone can tell. The Chrysanthemum, Chinese Primrose, the Cineraria, and indeed almost any other of our highly-cultivated favourites, are evidence of the wonderful modification of form that the plastic material of plant organism develops into when under the careful leadership of the cultivator. Peculiar outgrowths of the perianth have been recorded, not only in the Cyclamen referred to, but also in the Daffodil, where the long-tubed Ajax type has developed longitudinal fringes. But none of these forms have appealed to the floral fancy. They are not progression along artistic lines. They may serve the curious for the moment; they do, indeed, subserve the purposes of the student of plant physiology; but beyond that, horticulturally speaking, the sooner they are lost sight of the better.—*American Gardening.*

TREES AND SHRUBS.

THE AROLLA OR SWISS STONE PINE (PINUS CEMBRA).

AMONG the desolate heights of our great Alps; in the vast solitudes of these mountain regions, arise the rugged outlines of the ancient Arollas. Their heads are sometimes sternly erect but more often storm-broken; their branches some yet whole but many mutilated, their trunks some bare, while others are well-clothed.

It is life struggling with death; it is undying Nature striving and wrestling with the deadly breath of the glacier, with cold and snow and hoar-frost. The Arolla is the pioneer who advances with stout persistence, only maintaining its own existence by an unceasing struggle, while guarding that of the thousands of beings that it feeds, protects, and shelters. It is the petted child of the good genius of our Alps, the beneficent agent of the spirit of the mountain forests. It forms an advanced guard, or rather now, alas! the forest rearguard—covering its retreat. We have with regret to face the fact that our mountain arboreal vegetation is drawing downwards towards the plain, descending to the valley—making a backward move.

Everywhere throughout the Alps, as well as in all the mountains of the civilised world, the forest limits are lowering, and the importance of the preservation of these agents so beneficent to agriculture and to the population of the mountain foot is a fact that is fully recognised.

Thus it is that Arolla is the stubborn fighter who resists and holds his own in spite of frost and tempest, drought and torrent, avalanche and storm-rush of stones. It holds its own, giving a wholesome lesson to us men of the present day who are none too well equipped with fortitude and power of endurance.

Never can I see these splendidly picturesque forms rising before my eyes without a tremulous gladness of mind. It is the tree of

the past, and to me the voices of the past are well loved. I hold in loving honour all that links these our days of vulgar utility with those earlier ages; with the great epochs of splendid devotion and of chivalrous enterprise. I love the spirit of poetry that exhales from the things of old times; and the Arolla is essentially a thing of the past.

Its centre of origin must be looked for in the vast plains of Siberia, from whence it came to us during the glacial period, with many another of our alpine plants that originated in North-Western Asia. Once it was the most widely distributed of our Conifers, and covered vast extents of alpine heights, that now are desolate. Now and then in old parchments and official Acts one finds mention of Arolla forests in regions now absolutely bare of trees. In the Vallée des Bagnes, for instance, a tract of mountain pasture now quite without trees is still called Les Arolles, although it is three miles above the outlying bushes of the upper edge of wooded land.

The Swiss Government is replanting vast spaces of Arolla forest, though some of the cantons have shown themselves remiss in the accomplishment of this duty. Thus in the Canton of Valais it is difficult to get anything done, for there a thick-headed population cannot be made to understand from the agricultural point of view the advantage of a protective barrier of forest. Mrs. Tyndall and the Association for the Protection of Plants have endeavoured to re-afforest three hectares at an altitude of 2,300 metres at Belalp by the planting of Arollas and Larches; the widow of the great English scientist thus putting in practice an idea that her illustrious husband had long had in mind. But we had great difficulty in securing the co-operation of the people of the country, though at last, after much opposition we succeeded, and now there may be seen there a thriving little forest of Arolla and Larch.

In the alpine botanical gardens of the Rambertia at the Rochers de Naye, at an altitude of 6,700 feet, and of the Linnæa at Bourg St. Pierre (5,358 feet) we have planted a number of Pinus Cembra which are succeeding admirably. On the Rochers de Naye it is the only experiment of tree planting that has succeeded at so great an elevation, and at the Linnæa it is the one which is doing best, seedlings planted there ten years ago being now handsome young trees 6 feet to 7 feet high.

The Arolla belongs to the most ancient of the genus Pinus; to those that have five needles in one sheath. The cone, which takes three years to come to maturity, contains large seeds, edible, alas! for man finds them as good as do the mountain jackdaws, the squirrels, and other wild creatures who feed upon them and enjoy their excellent nutty flavour.

In appearance the Arolla has not the grace of the Larch, for its form is short and compact, its stout trunk takes a waved or uneven line, and its thick grey-brown bark becomes covered with many coloured lichens. Its head becomes



AN OLD AROLLA (PINUS CEMBRA).

gradually thinned with rounded masses of foliage, and its outline is soft and round rather than slender and graceful; but it has a certain pride of carriage and a nobility of strength in its powerful breadth of shoulder.

I have thought that some lines in the pages of THE GARDEN might well be devoted to an account of this ancient tree, dying out from its own antiquity of race and form, shrinking on the one hand from the regions of the desert above and on the other from the invasion of young forests of Larch.

Geneva.

H. CORREYON.

THE STRAWBERRY TREE.

(ARBUTUS UNEDO.)

IN Southern Europe and the south and west of Ireland *Arbutus unedo* is very handsome in many British and Irish gardens. It is a beautiful evergreen shrub, growing from 3 feet to 20 feet in height, and just at this season it is covered with terminal clustered flowers, and the red and ripening fruits of its last year's blossoming. It is a very variable shrub, being readily reared from seeds, and some of the forms are much more handsome in habit of growth and blossoming than are others, and there are also differences in the profusion or otherwise of their fruiting, of which due note should be taken by intending planters. Dense and healthy bushes from 3 feet to 10 feet in height are just now very handsome, heavily laden, as they are, with heavy clusters of fruit, of a soft green, yellow, buff, orange, red, vermilion, or crimson-scarlet colour, that shine out very cheerfully from the dark and glossy green leafage, though, unfortunately, when they are quite ripe they are speedily carried away and eaten by the birds. Wherever the *Arbutus* grows healthily, and fruits freely, we have no other evergreen quite so handsome at this dull season of the year. *A. andrachnoides* or *A. hybrida* is a taller and more robust growing kind, with larger flowers, but it does not fruit so freely as does the common kind. *A. Andrachne*, from Greece, and

A. procera, from North-Western America (syn. *A. Menziesii* or *A. laurifolia*), are both very distinct and handsome kinds, not seen so often as they deserve, even in the mild south and western districts, in which they might be best expected to do well. *A. Croomii* is a very showy hybrid, with large clusters of rosy pink flowers. There is also a variety of *A. Andrachne*, viz., *A. serratifolia*, which forms a handsome bush or small tree. The drawback to these evergreen Strawberry trees, as a whole, is their slow growth on most soils, and they rarely thrive except in a sheltered and moisture-bathed climate. At the Lakes of Killarney they seem quite at home, though in all probability they were originally introduced there at some early period, of which all records now appear to have been lost. Hehn, in his "Wanderings of Plants and Animals," page 304, says that the *Arbutus* is "scarcely ever seen further north than Central Italy; but in Arabia, as Juba (quoted

"wood gardens" at Oakwood, Wisley, Munstead, Harrow Weald, and elsewhere, and the pity is there are not more of them in suitable places, as many beautiful plants grow better and are more lovely in shady woods than elsewhere. F. W. BURBRIDGE.

CHRYSANTHEMUMS.

PLANTS IN SIX-INCH POTS.

THERE is a tendency among Chrysanthemum growers to give more attention to the culture of plants in 6-inch pots. A careful observer will have noticed during the last few years that the use of plants in 6-inch pots for grouping has been largely on the increase. A few years ago, at the October exhibition of the National Chrysanthemum Society, plants of the kind under notice were freely used, and each succeeding season there has been an increasing number of these plants in use, not only

grown in the orthodox manner. This difficulty, however, does not meet the grower who does not want to commence propagation until early in March. As a rule by the date just mentioned the majority of plants have regained their vigour, and are developing quite freely nice healthy cuttings with which to perpetuate the different varieties. Numerous instances could be given in which enthusiastic Chrysanthemum cultivators make a practice of shaking the old stools out of their flowering pots after cutting down the plants, reducing the ball of earth considerably, and then planting out the different stocks in a bed of suitable soil on the greenhouse bench or raised beds on either side of low-pitched glass structures. As a means of raising healthy stock it is difficult to conceive a better method than that just described.

In the earlier half of March begin with some of the very late-flowering kinds, such as Mrs. H. Weeks, Mme. R. Cadbury, Mary Molyneux, Mrs.

Ewart Barter, W. H. Whitehouse, Robert Laird, Julia Scaramanga and its sport Mr. J. T. Simpson. The latter part of March is a better time for varieties of the character represented by Mutual Friend and its soft yellow sport Mme. Von André, Mrs. W. H. Lees and its straw-yellow sport Rivers H. Langton, Australie, Mdle. Marie Hoste, Swanley Giant, Florence Molyneux, Eva Knowles, C. W. Richardson, George Towers, and Western King.

With the approach of April the ordinary mid-season varieties should be taken in hand. Begin with the later mid-season kinds first, following on later in the month with those that have a tendency to bloom rather earlier than the majority. Many varieties of easy culture may be propagated as late even as May, and the first buds afterwards developing retained. In this connection, Vivian Morel and its sports Charles Davis and Lady Hanham often succeed beyond the grower's expectations, and develop flowers of large size and beautiful colour.

Cuttings inserted during the period covered by the dates above mentioned are the result of clean and free growth. They invariably root quickly, and if the resulting plants are accorded the same attention as usually falls to the lot of well-grown plants, free and uninter-

rupted growth should characterise them all through the growing season. D. B. C.

WOODLAND AND FOREST.

UNDERWOOD OR TREES.

(Continued from page 469, Vol. LVIII.)

EVERGREEN COVERT.

THE abolition of the common underwood and its frequent cutting need not prevent us having a true undergrowth of native and other evergreen bushes, Box, Holly, and Juniper, in open and bare spots (even if chalky), evergreen Barberry, the large Partridge Berry (*Gaultheria Shallon*), and our native evergreen *Daphne*. Holly in some woods on light soil suckers like a weed, and little seedling plants



FOREST OF PINUS CEMBRA, ONE OF THE FEW REMAINS OF FORMERLY MUCH LARGER FOREST AREAS.

by Pliny) exaggeratingly asserts, it attains a height of nearly 100 feet." In older times the red fruits would appear to have been eaten; but in Greece and Italy to-day they are thought unwholesome. On the other hand, modern travellers have eaten them without any numbing or ill results as mixed with wine, sugar, and cinnamon. The *Arbutus* is one of the shrubs or small trees known to Theophrastus of Eresus (B.C. 374-286), and, together with the Bay Laurel, the Pomegranate, and the Myrtle, is one of the earliest and best of European exotics brought to our northern gardens.—*The Field*.

AMERICAN WILD FLOWERS.

If your correspondent "Northern" could get a peep at a recently published volume, "Nature's Garden," I think it would help materially in the culture of American wild plants, as their native habitats are given—swamp, wood, river bank or prairie, water or rocks, &c., as the case may be. The illustrations are very beautiful. There are beautiful

for the semi-early show, but later ones also. It is quite easy to understand that plants in 6-inch pots, each one carrying one large handsome bloom, can be more easily disposed in a group and often with better effect than a plant grown in the orthodox manner—i.e., three blooms on each. In most cases by the newer method of culture the plants are dwarf and sturdy, two points deserving consideration, and equally important to those whose business it is to make effective displays in their own glass structures at home.

To most growers the chief point in favour of growing plants in these small pots is the comparatively short season over which the growing period extends. The extreme limit of time is from early March until November, many sorts being satisfied with less time than that just mentioned. Many persons, too, know the difficulty frequently experienced in obtaining healthy stock during November, December, and January, at which period it is usual to insert cuttings for plants to be

from forest nurseries may be planted and will come right in time, as will the Box planted in the same way. Rhododendrons are often planted, but as it is the common Pontic kind, which comes to woods in two ways—planted for its own sake and by killing the good kinds grafted on it—the effect is often dull. If, however, we take to layering our brilliant kinds of hardy Rhododendron (a simple matter enough), then we should have such underwood beauty as no garden might rival.

It is not a necessary part of propagation to put the finer and hardier Rhododendrons, raised mostly from the hardy North American kinds, on the somewhat tender Ponticum, and, if nurserymen will not layer them for us, everyone who has a good kind should layer it for himself wherever the plant grows in wood and pleasure ground. There are some of the best nurseries now, however, who have already good stocks of the finer kinds on their own roots, and are preparing more. These, when we have them in cool woods, would almost layer themselves, even if we did not aid them, and give a splendour of colour in summer that no result of man's planting could surpass in effect with noble sheltering evergreen covert in hard winter and spring days.

But while it is only the few who will as yet succeed in refinements of this kind, everyone with a wood to plant or take care of should have a place in his heart for our native evergreens—the most beautiful we shall ever have in our land, no matter how many evergreens come across the sea.

Owing to the jumbled way of planting in gardens we do not often see these in their best form, while in any patch of woodland we have good chances of showing it. Few who only see our native Box of the chalk hills weary and drawn in the garden shrubbery have any idea of its beauty massed on an open Surrey hill. As an evergreen colony on a hot and poor bluff in a wood it would be fine in effect and an excellent and warm covert. Happily, too, these native evergreens of ours often love our poorest and driest soils, of which there is such a vast area in the southern counties. On chalky wastes, where no other shrub or tree appears, we see the despised (of garden planters) Juniper making its way in large colonies, only wanting a little encouragement and the exclusion of grazing creatures to form sheltering coverts. It grows taller and stronger on the sandy hills. The Holly, too, best of all evergreens, loves the poor, stony ground, and, mixed with Juniper, forms beautiful covert. As I finish these notes in November the Holly is lovely in copse, wood, and hedgerow, laden more than usual with scarlet. Tall old trees flash against the blue sky and flying clouds, the trees untouched by the shears, often as fine in form as brilliant in colour. The Yew is in one of its true places as a group in the heart of a

wood. There is one of old Yews in the Long Covert at Shrubland, round which on wintry days the pheasants gather like bees over honey-giving flowers. This noblest of our native evergreens, while happy on soil moist or rocky bank, also loves the chalky and poor country, too, as we see so many of the finest trees on the dry hills of Surrey.

The Ivy, if we forget it, will come of itself, but it would be well in the many places where the large-leaved Ivies are in the garden to put

beautiful though less rampant growth in the shade, when it gets to the crest of an old Juniper or other tree, it takes the tree form, and then is as good an evergreen as any. W. R.

AN ARTIST'S NOTE-BOOK.

RUBUS NUTKANUS.

THE Rubus family is a most charming one, and *R. nutkanus* and *R. spectabilis* are happy among the natural vegetation of steep and stony banks. Those who wish to create pretty effects should make a note of them for planting in rough places, especially by woodland walks or in corners more or less shaded by large trees. *R. spectabilis* has flowers produced singly; they are large and of a purple-red colour. It grows vigorously, and has stout thorny shoots and large leaves, which are much like those of our native Bramble. The Nootka Bramble (see illustration) is of a different habit, being dwarfer, more bushy, but spreading freely into a handsome mass of leaf and flower. The leaves on plants in partial shade are often very large. The flowers, which come in clusters, are pure white, and often 2 inches across. H.

GARDENS IN IRELAND.

BELGROVE.

WHEN Mr. W. E. Gumbleton invited me to go and see his richly stocked and beautiful garden at Belgrove I took it as a very great compliment, for I happened to know of many gardeners and others who would like to see this floral and botanical paradise, who, so far, have never done so. Belgrove lies to the east of the great land-locked harbour of Queenstown, which most people know as the exit and entrance port for the American mails. You can get to Queenstown from Cork all the way by rail in less than half an hour, or you can go slower and enjoy the scenery of the river Lee far more pleasantly if you go down from Passage by one of the passenger boats which ply to and fro during the day. At

Queenstown terminus you can charter "a mountain schooner," as a racy carman—who wore a wideawake with a pheasant's feather à la Teniers—called his dressy-looking outside car. Afraid that he would think my friend and myself "green," even in the Emerald Isle, I aired a little local knowledge, the result of a former



RUBUS NUTKANUS.

(From a drawing by H. G. Moon.)

suckers here and there in woods, of all things the most easy to increase, the young shoots even pulled off wall or tree rapidly rooting in moist earth.

The Ivy we must class among our noble native evergreens, for, after carpeting the wood floor and clothing the tree stems with its

visit, despite which, however, we paid him, as I afterwards found out, something more than the legal fare. I believe it is usual to grumble at the extortion of Irish carmen, but this genial fellow was an Englishman, and his plucky little Irish horse and himself both did their best to make our journey very pleasant and amusing as well. We had a most agreeable drive of four miles or so of very hilly road in the pleasant sunshine of a fresh August morning. We went through pretty lanes of Blackberries and Brake Fern, past browsing goats and rosy-faced children, and at the end of the journey we found Mr. Gumbleton already abroad amongst his flowers.

THE DWELLING-HOUSE AT BELGROVE

stands on a grassy slope that runs down to a creek from the harbour, and you obtain pleasant glimpses of the water here and there through the trees. A conservatory adjoins the house, to which, on occasion, it forms a short and ready entrance, and on the sunny front and at the end is the flower garden, the kitchen garden being a walled-in enclosure of several acres some distance above, and out of sight of the house itself. As most of our readers are well aware, Belgrove is celebrated for its rare and beautiful plants and trees, for a very select and perfect library of illustrated books on botany and horticulture, and for some choice works of European ceramic ware. There is amongst the plate an interesting cup or bowl formed of the lower part of the head of a silver mace formerly used in Dublin on occasions when Flood and Gratton and other Statesmen, before the Union, made Parliament House ring with their native wit and eloquence. It may be mentioned, since plants are our theme, seeing that the Rose and the Thistle are embossed upon its sides along with the Irish Harp and Crown, that there is no Shamrock there, as we now think there ought to be.

The conservatory, as usual at all seasons, was gay with choice flowers, with Cannas of the large or Orchid flowered section, all of which were due originally to the contents of one seed pod fertilised by Sprenger, now some years ago, when the thought occurred to him of emulating the work of M. Crozy, of Lyons, in the improvement of these handsome flowers. Amongst the varieties in bloom at the time of our visit we noticed *C. Britannia* with large red flowers, having broad gold edges; this was very handsome, as also were *Parthenope*, a bright red, and *Bavaria*, a large yellow-flowered kind. One of Lemoine's new seedlings of a peculiarly soft and pleasing ivory white tint, named *Avalanche*, struck us as being the likely forerunner of a beautiful series of white and ivory kinds. *Ville de Poitiers* of Bruant is also very distinct and handsome.

Tuberous rooted Begonias and zonal Pelargoniums were represented by some very beautiful kinds. Mr. Gumbleton is, and has long been, a connoisseur of Begonias, and has done much to foster and popularise the taste for

these brilliant and useful flowers. Apart from the great trade growers, now so numerous, the most successful amateur raiser of choice seedling forms to-day is the Rev. Edwin Lascelles, of the Rectory, Newton St. Loe, near Bristol, and some of his best new kinds were in flower in Mr. Gumbleton's collection at the time of my visit. Mr. F. W. Sinnock is a splendid double scarlet, Mrs. R. D. Hare a superb white kind, and M. Jarry Desloges is also a fine variety, as is also the pale yellow *Conspicua*. B. Froebeli major was also very bright and gay in the greenhouse, holding its own in colour against its neighbours the *Nerines*. N. Carrei, a lovely crimped-edged blush variety

dwarf growing composites. *Lobelia Firefly*, though darker and richer in colour, cannot compete with *Gerbera* for distant effect. The hoary-leaved *Lobelia Lord Ardilaun* is also very vivid and handsome, bearing very tall stout spikes of velvety crimson flowers. In a sheltered corner near a wall we saw a healthy bush of *Freylinia cestroides*, with narrow lance-shaped leaves and loose racemes of yellow *Cestrum*-like flowers. A bed of some of the most choice of *Cactus Dahlias* raised by Keynes and others was very gay with flowers. Keynes' White is a beautiful variety, as also is *Progenitor*, a vivid scarlet flower, and perhaps the precursor of a new race with trifurcate tips to their florets *à la Hidalgo*. Mrs. J. J. Crowe is a good pale yellow, being one of the best, and really more like a *Chrysanthemum* than a *Dahlia*. *Cornucopia* is a splendid red, very distinct in form and aspect. The *Clown*, a two coloured variety that appeals to many, has curved red florets with prominent white tips.

One spacious open air bed in this little enclosure was filled with the different varieties of

YELLOW ARUMS OR CALLAS,

all very strong and sturdy in habit. *Richardia Pentlandi*, *R. elliottiana*, and one or two others were especially dwarf and vigorous, and they have most of them already flowered well. Mr. Gumbleton has also a wonderful collection of *Gazanias* and of *Arctotis* both new and old. These genera contain amongst them some of the most exquisite flowers that open to the bright sunshine of a warm summer's morning. How is it that one so rarely sees the gorgeous old *G. splendens* in modern gardens? Some of these *Gazanias* at Belgrove are rare old kinds long lost to gardens, others are new, and their owner is very proud of them. All the *Arctotis* species come from Namaqualand, and the *Gazanias* from Natal and Maritzburg. Most of the new varieties of *Gazania* have been raised from seed by M. Lemoine, of Nancy, and by Herr Pfitzer, of Stuttgart, by skilful cross fertilisation, or by hybridisation of the wild species. One of the plants of *Arctotis* we saw has since bloomed, and turns out to be a new species, not known or grown at Kew, where it has been sent recently for identification. Mr. Gumbleton's forte consists in his facilities for taking up the cultural trial and critical examination of



MR. W. E. GUMBLETON.

was blooming most profusely. Some tuberous Begonias are also well grown outside, where we saw the splendid double red *Captain Henderson*, *Dorothy Hardwick*, a pure blush or rosy pink, and a variety called *Achievement*, a fine and large pale creamy salmon flower. Among the zonal Pelargoniums, *La Belle Alliance* was superb in form and colour, as also was *Cannell's Snowstorm*, one of the best of the white kind. Outside, on a little enclosed lawn, a series of beds on grass were aglow with colour. *Gerbera Jamesoni*, the *Barborton Daisy* or *Transvaal Marigold*, was opening its great scarlet flowers to the sun, and showing itself to be one of the brightest and best of all

any promising group of garden novelties. Just at present, for example, he has made a collection of *Gazanias* and of *Arctotis*, the *Marigolds* of Namaqualand. One kind raised from imported seed is of a deep orange colour, and has been pronounced to be a new species by the Kew authorities, but it is not yet named. There is also one very promising large white-flowered species of most distinct habit, and this it is expected will prove new when it flowers. A plant said to be the fine *Arctotis grandis* (*A. stoechadifolia*, the lavender-leaved *Marigold*) has recently been obtained from Germany, and of this novelty seed is now being offered by a German firm. This plant

has large and handsome white flowers, and promises to be a great acquisition to gardens as an annual, since in Germany it has been raised from seed and bloomed the same year. Here are also beds of the best species of *Asters* and *Heleniums*, including the gorgeous *H. Bigelowi* with a rich velveteen-coloured boss, surrounded by golden ray florets, a very distinct and effective thing, and *Leptosyne gigantea*, figured in the *Botanical Magazine*, vol. 102, as *Coreopsis* or *Tuckermannia maritima*, bore great yellow Dahlia-like flowers amongst its fresh green *Sonchus*-like foliage. To real plant lovers, however, perhaps the great attraction here were beds containing three very rare and handsome silvery-leaved composite plants—*Helichrysums*—from Mount Kilimanjaro. Perhaps the most interesting was *H. Gulielmi*, named in compliment to the German Emperor, a sturdy branching shrub, with its candelabra-like branches, and leaves covered with a dense silvery down. This plant has since bloomed, and has been illustrated in the *Gardeners' Chronicle*, and is, I believe, to appear in the coloured pages of the *Botanical Magazine*.

H. affinis formosum and *H. Newei* are other silver-leaved species of similar aspect and habit; the first-named is considered by Mr. Gumbleton as by far the most distinct and handsome of all the three new kinds. *Onopordon bracteatum* is a very handsome silver-leaved Thistle, its foliage forming a perfect rosette on the surface of the soil. A very distinct and interesting plant is the *Gorse Daisy*, *Hemizonia pungens*, its prickly branchlets thickly dotted with golden stars. Here also we saw *Fugosia hakiaefolia*, a blue-flowered *Convolvulus*, figured some time ago in THE GARDEN.

Hazardia detonsa is a striking silvery-leaved composite about 2 feet in height, with yellow flowers, and here also we noted a bed of *Incarvillea Delavayi* and *I. grandiflora*, both of which have been figured in THE GARDEN. One bed was edged with *Bidens humilis*, a dwarf golden-flowered composite easily reared from seed. This plant has also been sent to Belgrove under the name of *Cosmea sulphurea*. It is quite hardy, and comes up from self-sown seeds. *Gladiolus princeps* we saw here in flower for the first time, and it is a very stately and brilliant thing. It was sent out by Herr Max Leichtlin, who holds the original stock, and it is the supposed parent of an entirely new race. *Clematis Stanleyi*, a sub-shrubby species from Zomba, having opposite leaves, is established, but has not turned out as well as was expected. *Anclusa Barrellieri variegata* was pointed out as being a very handsome spring-blooming plant, its clear and pure blue flowers contrasting well with the ivory-white variegation of the foliage at that season.

Around three of the beds in the enclosed flower garden hundreds of the rare old double white-flowered *Colchicum* form an edging, and produce a fine effect when in bloom in September or October. Beside

A LONG TERRACE WALK

in front of the house are fine collections of *Cortaderias* or *Pampas* grasses, also *Kniphofias* or *Tritomas*, as they used to be called. *Cortaderia jubata* or *C. quiloa* of M. André grows 10 feet to 12 feet high, and the golden and silver variegated forms also do well. The best silver-leaved form is *C. Stenackeri* and *C. Wesselinghi*, though not so white is very elegant and beautiful. The type plant or species is very variable, being tall or dwarf, and the plumes vary a good deal in size and colour, from silvery white to soft fawn or rose colour.

Among the *Kniphofias*, *K. columnaris* is a very distinct and beautiful kind of which the whole stock is here. It is a seedling of Max Leichtlin's, and one of the best. Another noble variety is *W. E. Gumbleton*, one of Pfitzer's best seedlings, and *K. multiflora* is practically a white form of considerable rarity and beauty. We have said nothing of an interesting grove of Bamboos that are doing well here near an old arched wall, formerly part of a glazed conservatory or plant house. A remarkable and variable series of Delieul's hybrid *Yuccas* are planted near them, and form a good contrast in form and colour. One specimen *Yucca* we noted here has flowered recently, and seems a very distinct and rare kind, with a stout stem 3 feet to 4 feet high, surmounted by a dense tuft of short and stiff saw-edged leaves. The old flower spike was but little longer than the leaves, 16 inches to 18 inches or so, and must have been very dense or congested when covered with its silvery bells. It is not named, and seems both distinct and rare.

Beside the terrace walk, *Phoenix canariensis*, or an allied species, has grown outside some years, and the great leaved *Beschorneria decosteriana* recently bore three spikes of flowers, the tallest being 6 feet to 7 feet high, and its red parrot feather-like bracts render it very showy, even before its greenish Agave-like drooping flowers expand.

Belgrove, apart from choice plants and flowers, is rich in

TREES AND SHRUBS

of many kinds, and days instead of hours would be necessary in order to give them adequate study and attention. On the grassy slope below the terrace walk is a noble specimen of an open or branching form of the Italian *Ilex*, *Holm*, or evergreen Oak (*Quercus Ilex*), the tree beloved of Virgil. It is 60 feet high, and its four great main branches have a very wide spread. It is supposed to be at least 200 years old, and is one of the arboreal treasures of the place. There is also a fine example of the dense, close-headed or cushion-shaped *Ilex* on another portion of the same lawn; it is probably of the same age, though much smaller in size. Quite near to it is a good oriental Plane (*Platanus orientalis*) with its light green, deeply cut palmate leaves. Above the house on a higher slope is a dense specimen of the golden Chestnut of Monterey (California). This is *Castanopsis chrysophylla*, its leaves beneath being richly powdered or covered with golden tomentum. Here also we saw one of Burbank's creations, namely, the Royal Walnut (*Juglans hybrida*) with pale green serrate leaves, *Ilex buxifolia*, *Juglans ailantifolia*, and *Plagianthus Lyalli*, are other specimens worth notice.

An outer wall of the old kitchen and fruit garden is beautifully covered with graceful climbing plants, *Ampelopsis Engelmanni* being noticeable and desirable from its clinging habit. *Wistaria multijuga* also does well here, bearing dangling racemes fully 2 feet long when in bloom, its flowers having a bi-coloured appearance quite distinct from those of *W. chinensis*. It may interest some readers to know that this *Wistaria* is now ripening several pods of seed, its pods being similar to those of a kidney Bean in size and shape. Although very rarely *W. chinensis* fruits in British gardens, I never heard of *W. multijuga* doing so before.

Tagetes Lemoni is a shrubby Marigold, with foliage not unlike that of the Chaste tree (*Vitex Agnus castus*) in shape and odour. On a sheltered wall here we saw a new fruit

tree for the first time. It comes from Southern Brazil and Uruguay, its name being *Feijoa Sellowiana*, a relative of the Guavas and the Myrtles. It has glossy green, opposite, evergreen foliage, silvery white below, and in habit of growth reminds one of a large leaved kind of *Pittosporum*. It is said to produce deliciously fragrant fruits about the size of Lemons, and the best forms or varieties have no seeds, which are such a trouble in the case of most myrtaceous fruits. Its flowers are borne in the axils of the leaves and are of a peculiar shape, having cupped petals not unlike those of *Blumenbachia* or of some of the *Loasas*. M. Morel, of Lyons, holds a stock of this novelty. Like the Kaki fruit of Japan, this *Feijoa* deserves a place in a light and sunny Peach house or vinery wall, even though it may be now and then possible to ripen its fruits in the open air. This new fruiting shrub or small tree was introduced into French gardens by M. Edouard André, the eminent garden architect of Paris, who first fruited it in his garden near Cannes. In the kitchen garden we also saw the original plant of *Buddleia Colvilei*, that flowered here for the first time in 1891. It was, I believe, first figured from Belgrove specimens in the *Botanical Magazine*, as also in the *Gardeners' Chronicle*, as well as in the *Revue Horticole* of Paris. One severe winter 29° of frost killed back all its side or lateral branches to the main stem, but it recovered, and is now a fine and healthy plant 12 feet high, and quite as much or more wide, as it grows under the shelter of a high wall. *Eucryphia pinnatifida* also does well here, being fresh and healthy and fully 6 feet high or more. The still more rare species, *E. cordata*, is healthy and happy here also. It is a very distinct and handsome shrub, with leaves not unlike those of a large leaved evergreen Oak, but perhaps still larger and more glossy. The

BEAUTIFUL CARPENTERIA CALIFORNICA

does well here and blooms most profusely. As seen at its best it is certainly one of the most exquisitely beautiful of all flowering shrubs, and growers should note that there are at least two very distinct forms or varieties—one having better shaped flowers, and narrower leaves than the other, and being, moreover, hardier and more free-flowering. The same is true of many other popular flowering shrubs and trees, such as *Solanum crispum* and *S. jasminoides*; but perhaps even more so of the Chinese *Wistaria*, of which there are many distinct variations, some much more free flowering and of better habit and of more luxuriant growth than others. In a cold frame we saw what is said and believed to be the best of all the Honeysuckles in cultivation, viz., *Lonicera Griffithi*, received from that wonderful garden for rare plants belonging to Herr Max Leichtlin, at Baden-Baden. This last, together with *Thriptomene Mitchelliana*, from Southern Australia, and the distinct looking *Veronica Lindsayi*, and hosts of other new, rare, and doubtfully hardy shrubs, still await their permanent quarters in this most remarkable collection.

I was invited to Belgrove, amongst other reasons, to see and admire the new tanks and choice collections of all the best new Water Lilies or *Nymphaeas* recently made there. Very fresh and flowery and delightful I found them as they opened their richly tinted blossoms to the warm sunshine of a delicious August morning, and I much regret that space compels me to postpone my copious notes on these water jewels until a more convenient season.

My impressions of Belgrove will long linger in my mind as a most pleasant memory, for, as

we have already seen, it is in many ways a most interesting place. Apart from its great natural beauty and the advantages of a usually mild and genial climate, it is in reality very much more than a southern garden full of choice flowers, shrubs, and trees. I have, indeed, sometimes thought it more than half a pity that the owner of Belgrove happens to be a county magnate—a magistrate—and now-a-days a busy landed proprietor, because he has in him all the energy and critical acumen and botanical knowledge necessary for a director of a first-class botanical garden. But, after all, we must not repine, since this is really what Belgrove is, a beautiful private botanical garden, well and tastefully stocked from all parts of the world with rare and interesting vegetation. More than this, its genial director knows his plants well, and all about them that is worth knowing, while his critical and literary instincts make themselves felt in the most painstaking accuracy of nomenclature.

A day in the garden with the master of Belgrove is a notable experience not likely to be soon forgotten by any botanist or good gardener. But woebetide the chattering charlatan or those silly people who tell one they love the flowers without taking the

HARDY FRUITS IN SEASON.

WITH respect to January Pears, I give first place to Beurré de Jonghe. I will not pretend to technically or minutely describe the fruit, and would refer those wishing for fuller description of this or any other fruit referred to in these papers to "Hogg's Fruit Manual." It is a medium-sized longish Pear, of a creamy yellowish colour, freckled with russet spots. The eye is small and the stalk short. Its outward appearance may be described by saying that it resembles the Vicar of Winkfield in miniature, excepting the short stalk. Dr. Hogg gives the colour of its flesh as yellowish white touched with green. I should call it a pure white with a slight suffusion of green. The quality of its flesh is buttery and melting, with no trace of grittiness, and its flavour reminds one somewhat of Marie Louise, which it quite equals in this respect, and possesses, in addition, a most pleasant aroma. We have it growing on a wall with a south-east aspect, as well as in the open on pyramids. Much finer fruit is obtained from the trees growing against a warm wall than from those growing in open quarters, but we have equally as good crops of moderate-



PEAR BEURRE DE JONGHE. (Size of original: Height 3½ inches, width 2 inches.)

slightest trouble either to grow or to understand them. All such people would be wise if they left Belgrove out of their itinerary. A tour round my garden with Mr. Gumbleton reminded me of a few other pleasant tours I have had the privilege of making with others who either own or manage good and interesting collections. I thought of the pleasant hours Mr. Moore, of Glasnevin, and myself once had with the late Professor Naudin, of Antibes, of a walk round Kew with Curator Nicholson, or a day in the Cambridge Botanical Gardens with Lynch, or at Oxford with Baker, or garden hours with Canon Ellacombe, Mr. John Bennett-Poë, or with Mr. A. Kingsmill, or last but by no means least with Mr. George F. Wilson in his delightful wood garden at Wisley, or in his home garden at Weybridge. These and many, many others one might well name are men that make a walk around a good garden one of the most enjoyable of all intellectual pleasures. It is men of this broad-minded geniality and accurate knowledge of garden botany that best show us that a good garden "is a joy for ever," a never-failing source of inspiration and refreshment, both to themselves and to their horticultural friends. F. W. BURBIDGE.

sized fruit from the open, and the flavour is quite as good as from wall fruit. Therefore it is not necessary to have the assistance of a wall to grow this most excellent variety to perfection as regards flavour. This Pear may be had in condition for dessert longer than most Pears, and another important and rather singular attribute it has, is that it does not decay at the core like the majority of Pears, but symptoms of this first appear in blotches on the surface. The tree, although a good cropper, is not a strong grower. Le Lectier is a recently introduced late Pear of great promise. It received a first-class certificate from the Royal Horticultural Society when exhibited at one of their meetings a short time ago. Attention was drawn to this fine Pear in THE GARDEN recently by Mr. Wythes, and I endorse all he says of it. OWEN THOMAS.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, from 1–4 p.m. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Professor G. Henslow, M.A., &c.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

THE HARDEST BAMBOOS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In "A Note on Bamboos" in THE GARDEN of January 5 you mention the following twelve Bamboos as the finest of the family and also the hardest: *Arundinaria Simoni*, *A. nitida*, *A. japonica*, *A. Fortunei*, *A. auricoma*, *Phyllostachys boryana*, *P. Henonis*, *P. viridi-glaucescens*, *P. nigra*, *P. mitis*, *P. Kumasasa*, and *Bambusa palmata*. I would add another eight species of undoubted hardihood. They have stood the hard winter of 1894-95 at Batsford Park, Gloucester, and several other places in England, and rank amongst the finest of the Bamboo family, and would even rival some of the twelve mentioned. Another good point in their favour is that they are quite distinct and may be recognised at a glance. They are *P. Quiloi*, *P. mariacea*, *P. flexuosa*, *A. anceps*, *P. Castillonis*, *B. fastuosa*, *P. sulphurea*, and *A. Hindsi*. I might also add *P. aurea* and *A. Hindsi graminea*—two useful varieties. May is the time to plant. Having planted many thousands of Bamboos I can confidently say that those which are established and in pots may be planted at any time from May till December, drought and frost excepted. Plants from the open ground do much better if planted in the autumn. When planted in the spring or summer they invariably lose their leaves and take a season to recover.

V. N. GAUNTLETT.

Green Lane Nurseries, Redruth.

MONSTERA DELICIOSA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It is a pity that "W. J." anathematizes this edible fruited plant on insufficient evidence on page 24. It is quite safe to eat, and perfectly delicious to those who like it, if rightly prepared for the palate or the dessert table. It must be thoroughly ripe, so that its coat of hexagons falls away with a touch, and then the pulpy segments are luscious and agreeable, despite the black threads, which merely represent the defunct stamens of the flowers. It is the husks of the outer coating only that are full of sharp and prickly raphides, not the fruit itself. I have grown and eaten a good many tropical fruits at home and abroad, and like the *Monstera* as well as many of them.

F. W. BURBIDGE.

ROYAL HORTICULTURAL SOCIETY v. ROYAL AGRICULTURAL SOCIETY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Why is the distance so great between these two? A good piece of work would be accomplished for the new century if these could be blended on friendly lines. One is in want of a new horticultural hall and the other a new camping ground near the metropolis, with a view of being utilised during the time it was not required for the preparation of the show and the show itself. The Agricultural and the Horticultural Societies' interests are so identical that, if co-operation could be brought about between the two, both societies would benefit; and if it were possible for the Government to be approached to make the Royal Horticultural Society of England worthy of the national importance it is to this country and her colonies, a better opportunity could never occur. We will imagine a magnificent hall in the Royal Agricultural grounds filled with exhibits of the Royal Horticultural Society during the show week. Such a building and its contents would add lustre and attractiveness to the great show itself, and many members of one society would become members of the other; and there is no doubt that such a building when not required by the Royal Horticultural Society in the Agricultural grounds would add immensely to the

attractiveness and usefulness of the hundred and one things the grounds could be used for ten months out of the twelve.

W. HORNE, *Cliffe*,
Member of both Societies.

[We fear this amalgamation would never do. Horticulture is an important industry, and should go on in its own way. The Royal Horticultural Society must stand alone.—EDS.]

HARDY FRUIT CULTURE FOR MARKET.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—This subject is being perpetually whipped, yet it does seem as if all the flogging given had very little good effect upon it. We hear very little indeed of material effort to develop fruit culture on a large scale, and it is only by doing it on a large scale that material effect can be produced on the national supply. The putting down of 100 acres with fruit may in a few years have a trifling effect, but that effect may be more than discounted by the increase of population and wearing out of orchards elsewhere. Were it possible by any great national effort to put down 10,000 acres of good soil with fruit yearly some force on the existing fruit supply might be created, and for the nation's benefit we must remember that, extensive as the present fruit acreage may be, yet great portions are of little value commercially. Trees are of inferior varieties; they are disease or insect ridden; they have been neglected; they are at the best barely cultivated; and age is telling on them every day. Such fruit growing, for it is not culture, has the unhappy effect of depreciating real fruit culture, because the results are so poor, if not in quantity at least in sample and in market value. We shall never have in this country a real supply of hardy fruit until we adopt on a large scale what may be described as garden culture and methods. We do not want fruit orchards, but gardens, where the trees on broad-leaved Paradise and Quince stocks, are of the very best varieties for the object aimed at, and are placed under the control and management of fruit growing experts. We want fruit planting to be progressive; thus it is better to be putting down a few acres of ground every year just as means will allow, and doing it thoroughly, than it is to attempt the planting of a big area at one time and doing it indifferently. When large breadths of land are planted at once, the then cost of properly preparing the ground for the purpose is too great or the work too prolonged to admit of its being well done. Yet there is in relation to hardy fruit culture few matters of greater moment than that the soil should be deeply worked and well prepared. Without doubt it is a good plan to trench where this is possible. Failing that, then the ground should be deeply dug, certainly 12 inches, but deeper if possible. It should also be heavily manured, then planted with some strong-growing Potato. Such a crop effectually cleans the ground, and in planting, moulding, and final lifting of the crop the soil is well pulverised. It is then, in October and November, in splendid condition for planting. Where the soil is deeply worked the planting may be on the ground level. When the soil is less deep it is wise to plant shallow, placing each tree on a slight mound, and after planting giving each one a mulch of long manure over the roots. When dwarf or bush trees are planted at moderate

distances apart, the ground being further filled with Currant and Gooseberry bushes, Raspberry canes and Strawberries, it is no matter for surprise if very soon there is fruit of the best description to gather and to profitably market.

A. D.

BOOKS.

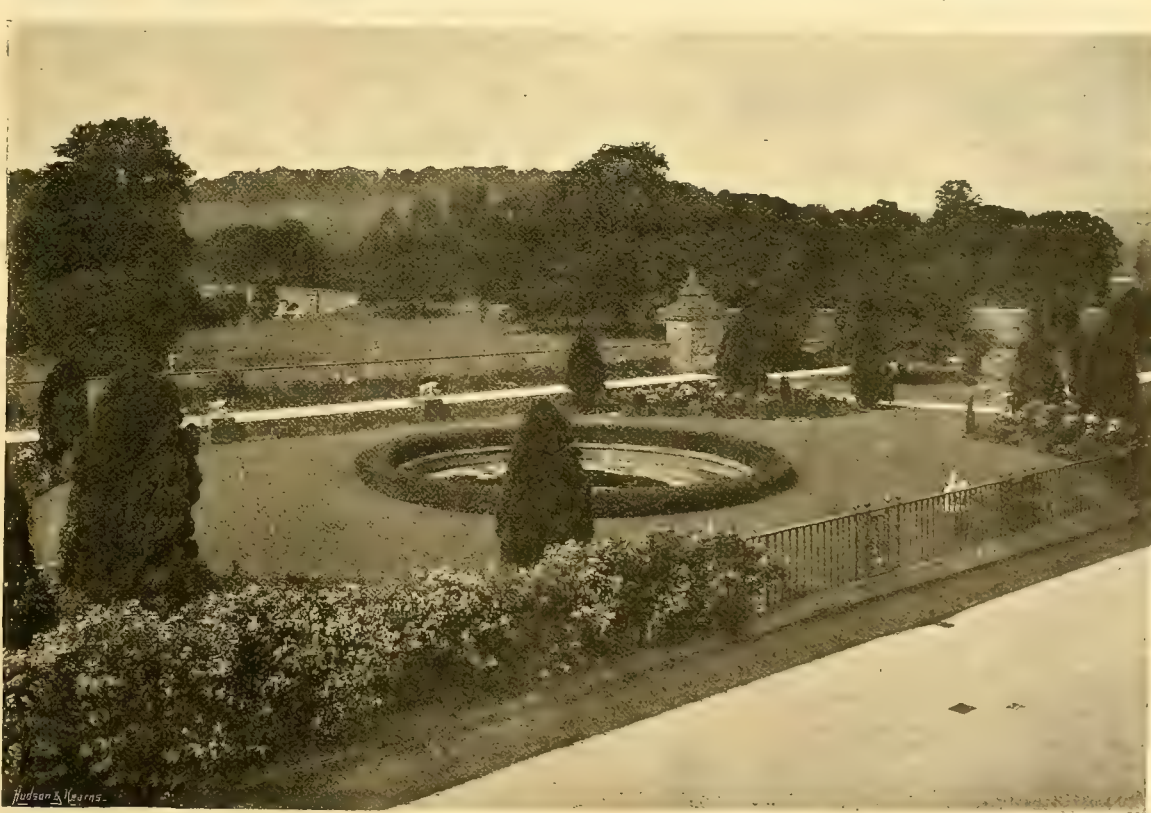
Joy, and other Poems, by Danske Dandridge, second, enlarged edition. G. P. Putman and Sons, New York and London, 1900. It is rare among the many volumes of poetry published in modern days to find a volume of verse so fully deserving praise and welcome. Here is true poetry, tender, dainty, and winsome, at times touching solemn depths, but for the most part singing a hymn of praise for all that is best and most joyful. The work of this sweet-souled American singer will be gladly read in England. Like our own poets her mind is in close communion and harmony with Nature, with the moods of woodland, the language of running water, the tricks and ways of wood-sprites, and the sweet solace of flower beauty. English readers will find "Joy" a most sympathetic volume.

CHATSWORTH.

It is a great pleasure to be able to include as one of the series of British homes and gardens appearing from time to time in *THE GARDEN* a short account of Chatsworth, "the Palace of the Peak," the home for many years of the noble House of Cavendish. Chatsworth, to those residing within the confines of the Midland counties, and more especially to those whose fortune it is to work and live in one or another of the large manufacturing towns there, has a very real meaning. It means that, when the opportunity offers, one of the most stately homes of England, surrounded by pleasure grounds perhaps unequalled for grandeur and magnificence, and situated in the midst of charming sylvan and rural Derby-

shire scenery, is thrown open for the recreation of the minds and bodies of thousands of busy workers. That such a privilege is not thought lightly of need hardly be said, but that it should be taken advantage of to such a remarkable extent as is the case serves to bring home to one how great a boon Chatsworth with its delightful environments proves to the British public in the more northern parts of the Midlands, and how indebted they are to the kindly thought and solicitude of the noble owner of the Palace of the Peak.

Chatsworth is perhaps unsurpassed in the beauty and nature of its immediate surroundings. It is situated on slightly rising ground, below which flows the river Derwent, while clothing the hill above and stretching away far on either side is an admirable setting of woodland, sombre and stately from without, yet at the proper season aglow with the blooms of acres and acres of Rhododendrons within. The formal gardens around the palace are quite in character, and as one nears the woodland merge gradually into the pinetum and arboretum, which many would vote to be the finest bit in Sir Joseph Paxton's masterpiece of landscape gardening. The wild beauty of the natural vegetation, the wooded slopes, the luxuriance to which the many beautiful conifers have attained, and the harmonious arrangement of the latter are immediately brought home to one. None who have visited the Chatsworth pinetum and have contemplated for one moment the wonderful specimen of Scotch Fir that overhangs the small lake, the charming old summer-house that looks across the water, provided with seats inside and on the roof (this being again surmounted by another roof), and smothered with Ivy, the varied trees and shrubs around, and the sombre wood behind, can ever quite dispel the impression of weird beauty and grandeur that such a landscape creates. That portion of the grounds known as the rock garden is entirely different from this,



LOWER WEST GARDEN AT CHATSWORTH.

as we usually understand the term. At one end is the massive Wellington rock, quite 60 feet high, over which splashes and falls continually a stream of water into the pool below. This stream empties a little lower down into a broad rivulet that flows for some distance between banks clothed in many parts by masses of Rhododendrons and Azaleas, while in others huge boulders of rock covered with numerous shrubs and creeping plants are visible. Delightful walks and rustic bridges respectively surround and span the streamlet, providing further positions for both shade and sun-loving plants.

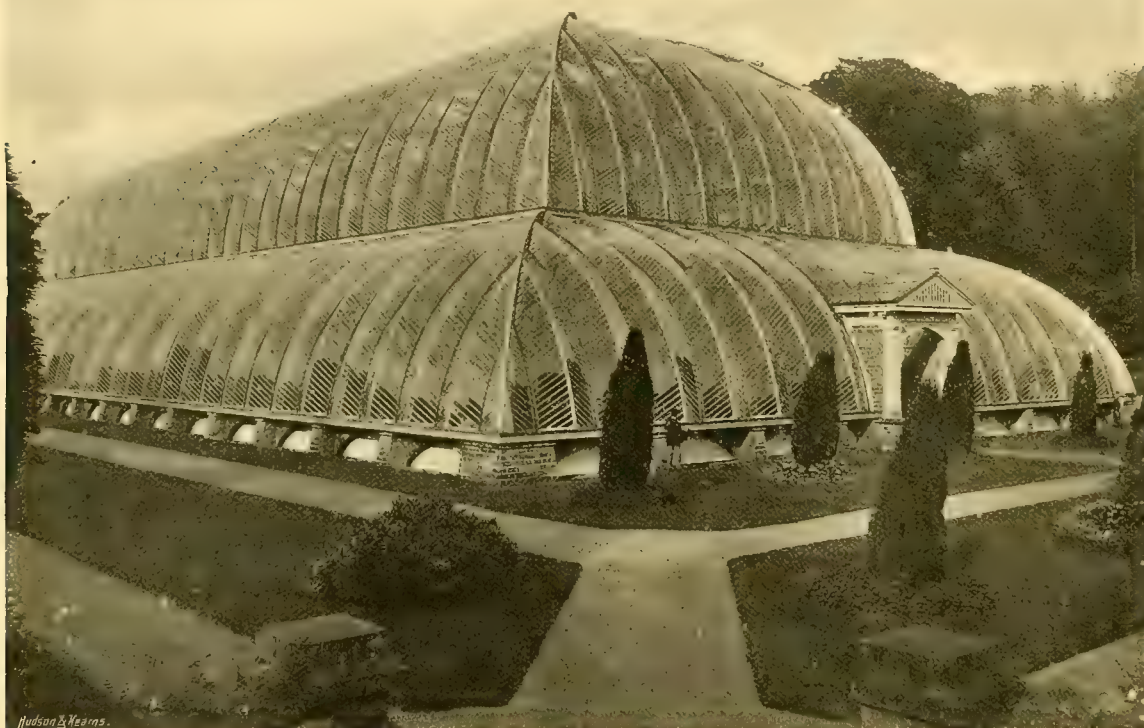
All must have heard of the curious "Willow tree," from whose deceptive branches many a visitor has received a wetting. It is a good representation of a Weeping Willow, though made of copper, and unfortunate is he or she who, advised by the attendant, goes to inspect

A feature that is particularly interesting at the present time because of its comparative absence from gardens is displayed at Chatsworth in the orangery, and the two old-fashioned glass houses devoted to the culture of the Citron and the Camellia. Such fruits from a commercial point of view certainly do not justify their inclusion in our glass houses, but their associations with an old world form of gardening make one glad to see they are not discarded from places like Chatsworth. The Camellia, too, is fast falling into disfavour, although as a permanent conservatory plant few are more worthy of culture.

We are fortunate in being able to give as one of our illustrations that of the large conservatory. This is, so far as we know, the largest glass structure in any private establishment, with the exception, perhaps, of the temperate house in the Royal Gardens, Kew ;

almost imagine one's self to be looking down upon a tropical forest, while the cross paths and those which follow the outline of this enormous structure give an excellent opportunity of studying more closely some of the many remarkable plants there to be seen. Mr. William Chester, who is now superintendent of the Chatsworth gardens, for very many years previous to his promotion to that important post had charge of the large conservatory, and to him is largely due the splendid health these often unsatisfactory subjects still enjoy.

Orchids have for long been noteworthy here, and at the present time Chatsworth possesses one of the finest collections in the country. Some have been introduced by collectors sent out by former Dukes of Devonshire, more particularly in the first half of the nineteenth century, when Sir Joseph Paxton had control of the gardens. Even now there are but few, if any, places where *Disa grandiflora* and others of this genus are better grown than at Chatsworth. It would fill many columns of THE GARDEN to make mention even of all the noteworthy objects in the grounds surrounding the palace, and as that important portion devoted to the culture of fruits, cut flowers, and vegetables has not yet been touched upon, the upper garden must now be left for the lower. This is almost a mile away from the grounds proper, and quite close to the river Derwent. It is here that one may see the famous *Victoria Regia* Lily at its best ; the leaves attain to such vigour that a man may with safety sit in a chair upon them when they are fully grown. In addition to the *Queen of Water Lilies*, many of the smaller ones with various coloured blooms increase the attractiveness of the large square house devoted to their culture. Mr. Chester, from the numerous vineries and Peach houses under his charge, produces excellent crops of these fruits, very large quantities of which are required. The same may be said of vegetables and cut flowers ; the quarters devoted to the former are neat and



THE FAMOUS CONSERVATORY AT CHATSWORTH.

the statue just beyond, for during that time some mechanism that is hidden close by is put into play and the "Willow tree" begins to "weep." The Emperor fountain, throwing a jet of water to a height of 180 feet, and the large cascade are unique in their way, and when on rare occasions these and the numerous smaller fountains are at play (or work) one is reminded not a little of a *fête* day in the famous water gardens of Versailles. The Italian garden and the approach to it form an excellent example of formal gardening, as also do the many beds and borders, of designs and shapes innumerable, that are in evidence near to the palace itself. If any proof were needed of the great value of ample lawn space in formal gardens, where there is sufficient space to allow of it, the very apparent appropriateness of the extensive green swards at Chatsworth would furnish a superabundance.

this, however, is not one building in the same sense as the Chatsworth conservatory. The word conservatory here seems somewhat of a misnomer, for the word is generally now understood to signify a cool house for the accommodation of plants in flower. Very different is the one we are considering ; its temperature is that of a stove or hothouse, and the aspect of its vegetation almost entirely tropical. Palms in great variety, tree Ferns, and other exotics from a hundred and one different climes vie with each other in healthy luxuriance and produce an unique display, the effect of which can be fully appreciated by reason of the excellent arrangement of the paths and walks. A large central drive, easily accessible to carriages, enables one to obtain a full view of the wonderful banks of tropical vegetation on either side ; from the gallery running around the upper part of the house one might

well cultivated. For table and house decorations the latter are also most needful, and the glass houses in which they are grown are always taxed to their utmost. Much might be said of the herbaceous borders, the annuals, the hardy fruit trees, &c., but these at Chatsworth, as in every well-kept garden, are fully appreciated and cared for in a manner that reflects well upon Mr. Chester.

H. H. THOMAS.

THE SALE OF POISONS.

PROPOSED LEGISLATION ON THE SUBJECT.

A MEETING under the auspices of the London Chamber of Commerce was held recently to further consider the Bill having for its object the amendment of the Pharmacy Act, for enabling traders, as well as pharmacists, to sell poisonous compounds which are not intended for medicinal use or for the preparation of medicine. The chair was occupied by Mr. Thomas Tyrer, and there was a very large attendance.

Letters from various parties interested were read. Mr.



CHATSWORTH: A CORNER OF THE HOUSE.

Alexander Cross, M.P., of Messrs. Alexander Cross and Co., Hope Street, Glasgow, in a letter to the secretary, said he felt deeply the importance of obtaining some amendment of the Poison Law. Whilst, of course, he was in favour of strict regulations with regard to the dispensing of poisons in order that the public should be protected against the errors of unskilled chemists, he thought that common-sense was opposed to a system which prohibited the sale of articles in original packages bearing clear designations and specific instructions as to the purposes for which they were to be used, even when these packages contained poisonous compounds. The present state of the law had undoubtedly the effect of limiting the sale of certain articles, and depriving horticulturists and agriculturists of benefits which the use of these articles were calculated to give them. There was no greater safety in consequence of the present stringency of the law than there would be if the sale of poisonous compounds were allowed. Many of the purposes for which poisonous compounds were required had developed in recent times, which could not have been foreseen when Parliament passed a practical prohibition against their sale.

Mr. T. G. Dobbs also read several letters. One of them was from Mr. David Howard, who wrote that, in his opinion, the public would be fully protected by the proposed Bill. The only objection that could be urged against it was that the Pharmacy Acts had given vested interests to pharmacists for the sale of poisons, but what Parliament would make of that contention it was difficult to foresee.

Mr. Bennett submitted that the conditions of commerce and public requirements had greatly altered since the Pharmacy Act was passed. And a number of things which were not even dreamt of in those days were now required every day. Then, as to the dangers to the public which it was feared would result from the passing of the Bill, he pointed out that the manufacturers provided safeguards in the way of labelling packages. They would be distinctly labelled "Poison," and buyers would have to sign the register just the same as they did when they went to the chemist's, so that the responsibility of what they subsequently did with poison would be thrown upon the shoulders of consumers. Mr. Bennett concluded by moving the following resolution:—"The Chemical Trade Section recommend the Council of the Chamber to actively support in Parliament the proposed Bill, to alter and amend the law relating to the sale of poisons and poisonous compounds for agricultural and other trade purposes."

Mr. Bowley seconded the resolution. He was of opinion that legislation on a matter of this kind was futile, as the responsibility must, in the end, rest on the user of the poison. If they continued to allow poison to be interpreted in the same spirit as had been done in the case of some of the preparations to which reference had been made, the public would very soon be unable to get anything of ordinary daily use at any establishment other than a chemist's.

Mr. Dobbs, the solicitor in charge of the Trade Poisons Bill, stated he had heard one plea throughout the speeches that had been delivered. That was, "Let this Chamber view the question from a broad, and not from a narrow standpoint." If these articles could be sold in Scotland through seedsmen and other traders, why not in England? If the principle was wrong in one place it was wrong in another. There was no doubt about it that if the vote of England was taken, as to whether or not the Bill should be passed, there would be a very large majority in its favour. He held in his hand replies from many members of Parliament, who were all in favour of the Bill. Mr. W. H. Long, lately President of the Board of Agriculture, after having seen the Bill, approved of its provisions. Then, again, Sir John Leung, who had been held up as doing a lot for carbolic acid regulations, approved of it, and lastly, it had not to be forgotten that the Privy Council, in passing the carbolic acid regulations, had adopted the principle of the Bill. As a Chamber of Commerce, representing commercial interests, and not the interests of one body, he asked them, in the interests of

position as at the start of the meeting.—*Oils, Colours and Drysalteries.*

At a meeting of the Inverness Chamber of Commerce, held at Inverness on the 8th inst., the subjoined motion was moved by Mr. Donald Murray and seconded by Mr. J. A. Gossip (Messrs. Howden and Co., nurserymen): "That the Chamber resolve to petition Parliament in favour of the proposed Bill to alter and amend the law relating to the sale of poisons and poisonous compounds for agricultural and trade purposes." The motion was unanimously adopted.

At a meeting of the Coal Tar Distillers Association, held at the London Chamber of Commerce on Tuesday, the 8th inst., Mr. S. B. Boulton presiding, the following resolution, proposed by the chairman and seconded by Mr. C. D. T. Bushell, was carried unanimously: "That the draft Bill formulated by the Traders in Poisons Protection Society, with the alterations suggested and adopted by this meeting, receive the support of the Tar Distillers Association."

RIVIERA NOTES.

A SEVERE FROST AND GREAT DAMAGE.

A SUDDEN and very severe frost has devastated the gardens on this coast. On Saturday night, January 5, the sheltered thermometer fell to 27°, and in low lying and damp positions to 25°. It was succeeded by brilliant sunshine each day the frost lasted, and the alternations of cold and heat have wrought more ruin than I can remember. At Nice there was no warning whatever, no storm, no wind, nothing to account for the sudden drop in temperature, and in consequence no precautions were taken to protect tender plants until the damage was done. I would advise all gardening friends to wait awhile, for their pleasures would be greatly marred by the sight of so much destruction to soft-wooded plants. Orange and Lemon trees have not suffered, as there was no wind nor any rain or snow; Palms generally have also proved their extreme hardiness. On the other hand, such invaluable climbers as *Buddleia madagascariensis*, *Bignonia Cherere*, *Tacsonia ignea*, and *exoniensis* are killed to the ground almost everywhere. Heliotropes, Streptosolens, and Geraniums of all sorts are reduced to pulp; Wigandias, Bananas, and Daturas hang in black rags; Bougainvilleas, even in the most sheltered nooks, will scarcely preserve a single flowering shoot, so that one is tempted to believe the peasants, who declare that so fatal and so unexpected a frost has not occurred for forty years—i.e., the frost we speak of in England as the frost of 1860.

There are a few surprises, however. *Bignonia venusta* is quite untouched, and its orange flowers are opening as if nothing unusual had happened. This has been considered a very tender plant. I saw a *Poinsettia* still green and untouched in one sheltered nook. I cannot think why it should have survived without any apparent reason! The white-flowered *Lantana* has suffered less than the

public, to support the Bill. The safety of the public was not protected by law, and never would be, but the Bill before them gave more protection than the present regulations.

The Chairman remarked that one of the charges made against the chemists was that for self-interest they induced the Privy Council to pass certain restrictions, but in fairness he had to point out that the Privy Council, in making the recent order regarding carbolic acid, was moved to do so by the representatives of coroners all over the country. It is only fair to say so, because it raised the tone of the whole question, so a vote was then taken, when sixteen voted for the resolution and a similar number against. The chairman did not give his casting vote, and the question was left in the same

red; Kennedyas are quite untouched and full of flower, while the *Hardenbergia comptoniana* has suffered severely. Senecios of all sorts have been much damaged, and to a casual visitor I think the loss of the common pink Ivy-leaved *Geranium* flower is quite a thing to record; many a mile of bare wall was so lovely with its flowers a week ago, and now it is only here and there that it is even green. With such lovely weather as we are again enjoying the spring Anemones and Violets will rapidly come on, but the damage to the flower markets must be untold, and Riviera gardens will not present their best face to visitors this season.

E. H. WOODALL.

SOCIETIES.

READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

THE annual general meeting of this association was held at the Abbey Cafe on Monday, the 7th inst., and, notwithstanding the very inclement weather, there was a good attendance. The president, Mr. C. E. Stevens, occupied the chair for the first part of the meeting, vacating it later for Mr. Leonard G. Sutton, who was elected president for 1901. The other officers elected were: Chairman, Mr. T. Neve; vice-chairman, Mr. H. Wilson; treasurer, Mr. F. Macdonald; librarian, Mr. E. J. Dore; assistant librarian, Mr. F. W. Exler; auditors, Messrs. Badcock and A. Smith; committee, Messrs. A. W. Blake, F. Bright, R. Chamberlain, C. P. Cretchley, D. Dore, E. Fry, G. Hinton, W. Lees, F. Lever, E. S. Pigg, J. T. Powell, G. Smith, W. Smith, G. Stanton, W. Townsend, and J. Woolford; whilst Mr. H. G. Cox, "Fernlea," Junction Road, Reading, was re-elected honorary secretary. Mr. D. Dore staged three splendid heads of Sutton's Best of All Savoy. Two new members were elected.

LIVERPOOL HORTICULTURAL ASSOCIATION.

A MEETING of the above was held on Saturday evening of last week, Mr. T. Foster in the chair. Messrs. T. White and James Heaton were the lecturers on the "Progress of Horticulture" and "The Japanese Chrysanthemum." Mr. White, who has served the association for many years as chairman up to recently, gave a *resumé* of his own experiences and matters that had occurred during his gardening career, extending over about sixty years. The improvement in the appearance and utility of glass houses, the heating, and ventilation were described. The valuable additions to our fruits, vegetables, and flowers through our numerous collectors and raisers were given in some detail. The value of the work of the horticultural press and of societies similar to their own was undoubtedly the means of increasing the skill and knowledge of the cultivator.

Mr. Heaton, as chief prizeman of the leading class for Chrysanthemums for three years, gave an account of how to grow this popular class of plants from the cutting to the show-board. The various details of management were given as to watering, syringing, preventing of insect pests, the time of housing, giving ample ventilation, and slight shading; avoid sudden changes in the atmosphere which would tend to minimise damping. Liberal treatment in the compost was recommended, and feeding when the pots had become fairly filled with roots. Soot, sheep and horse manure water were advised, and Ichthemic guano 1lb. to each barrowful of soil. The most approved time for housing was between September 23 and 28, according to the varieties and the condition of the buds.

A discussion followed on both subjects by several speakers, after which a hearty vote of thanks was accorded to the lecturers for their practical advice and the chairman for presiding.

BECKENHAM HORTICULTURAL SOCIETY.

ON January 4, at the Church House, before a large meeting, Mr. W. Taylor (gardener to Mr. C. Bayer, Tewkesbury Lodge, Forest Hill, and a much respected member of the society) read a paper on "A Year's Work in a Vinery." Mr. Taylor advised a span house 75 feet by 24 feet with two divisions; in preparing for borders, which should be entirely inside, the natural soil should be excavated, and the bottom and sides concreted, allowing 3 feet clear—6 inches for drainage and 30 inches for the soil. The border should be made 3 feet wide, and with a turf wall to keep it in position, adding 1 foot yearly; compost to consist of top spit of pasture, bones, and burnt ballast. The Vines to be planted 4 feet 6 inches apart, and the wires 15 inches from roof. The lecturer dealt at some length with manuring, watering, syringing, temperature, ventilation, insect pests, and fungoid diseases. A very lively discussion followed, in which Messrs. Webster, Burge, Crosswell, Cousins, and others took part, after which a hearty vote of thanks was accorded Mr. Taylor. About 1,350 bunches of Grapes are grown annually at Tewkesbury Lodge gardens. About two years ago Mr. Taylor was awarded the Beckenham Horticultural Society's silver medal for a collection of forty-eight bunches exhibited at a meeting here, and on the present occasion he brought splendid examples of his skill.

WOOLTON GARDENERS' SOCIETY

THE twelfth annual meeting of this society was held on the 3rd inst., at the Mechanics' Institute, Mr. James Clarke being voted to the chair. Mr. R. G. Waterman, treasurer and secretary, read the report and balance-sheet, which gave evidence of a good year's work. Special mention was made of three lectures as being somewhat out of the groove

of practical gardening, which were by the Rev. J. F. Nicholas, F.R.G.S., on "Historical Paris and its Gardens," Mr. Duckett Cowan on "Reminiscences of My Travels Collecting Orchids in South America," and Mr. R. W. Ker, F.R.H.S., F.A.S., on the "Sweet Pea Conference and My Russian Journey." The latter two were illustrated by specimens collected by Mr. Cowan and with lime-light views specially arranged by Mr. Ker. The library has received a welcome addition from Mr. Holbrook Gaskell, president of the society, which now numbers nearly 150 volumes, making it the most complete of its kind in the neighbourhood of Liverpool. Three members of the society presented themselves for the examination of the Royal Horticultural Society; two gained first-class certificates and the other a third class.

The balance-sheet shows a slight deficiency compared with last year, there being at present £1 19s. 1d. in favour of the society. The members showed their appreciation of their officers in re-electing them throughout: President, Mr. Holbrook Gaskell; treasurer and secretary, Mr. R. G. Waterman; librarian, Mr. J. Rae; microscope, Mr. H. Corlett. A cordial vote of thanks was tendered to the chairman for his services.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

THE annual general meeting was held at Dowell's Rooms, Edinburgh, on the 9th inst., Mr. Neil Fraser, sen., vice-president, in the chair. The secretary, in submitting the annual report, said that at the last show there was an increase in cut flowers. The total entries at the 1899 show were 2,068, while those of 1900 were 2,161. An abstract of the funds of the society at November 30, 1900, showed the ordinary receipts at £1,107, and the ordinary payments at £1,260. Mr. Alexander Milne remarked that the members' subscriptions were £100 less than formerly, and he thought some means should be adopted to increase the membership.

The chairman said that an effort to increase members was to be made by sending out circulars to persons interested in gardening who were non-members.

The following are the elected office-bearers:—President, Lord Balfour of Burleigh; vice-president, Viscount Melville; Councillors: Messrs. James Fulton, Edinburgh; James Whitlock, Dalkeith; and D. W. Thomson, Edinburgh.

It was agreed that gardeners, horticultural employers, and nurserymen be admitted to membership on payment of 5s. annual subscription.

WOOLTON CHRYSANTHEMUM SOCIETY.

THE annual meeting of the above was held on the 18th inst., at the Mechanics' Institute, Mr. J. Stoney presiding. The report and statement of accounts proved highly satisfactory, increases being shown in the number and amount of subscriptions, the amount taken on the day of the exhibition, the number of entries, especially in the cottagers' classes, and the amount of prize money. The balance on the year's working amounted to £12 16s. 8d., which, with the amount brought forward (£21 16s.), shows a balance in favour of the society of £34 12s. 8d. An offer from the treasurer, Mr. Neil Gossage, of a silver challenge cup to be competed for by cottagers was gladly accepted. Mr. J. G. Seayrod was re-elected secretary and Mr. Neil Gossage treasurer. A cordial vote of thanks was tendered to the ladies who kindly adjudicated in the table decorations and to the workers at the show. A similar compliment was paid to Mr. Stoney for presiding.

WEST DERBY GARDENERS' SOCIETY.

A MEETING of the above was held in the schoolroom on Friday of last week, when a fair number of members were present, under the chairmanship of Mr. W. Craigie Williams. The subject for consideration was Orchids, and was in the capable hands of Mr. H. Corlett, a member of the Woolton Society. The table was furnished with nearly forty distinct varieties of cut blooms from the Orchid houses at Woolton Wood, and it was chiefly from these that some plain practical hints were given in the culture, which included the important details of potting, watering, ventilating, shading, and temperature. The details in culture being of such a diverse character, that could not be entered into in the limited time at command, a selection was made from those represented, such as *Cælogynis*, *Cypripedium*, *Calanthes*, &c. Hints as to prevention and cure of insect pests, &c. were given. Throughout the evening, and at the close of the lecture, questions were freely asked and answered, after which a very hearty vote of thanks was accorded Mr. Corlett for his excellent and interesting lecture, a like compliment being paid Mr. Williams for presiding.

LIVERPOOL HORTICULTURAL ASSOCIATION.

THE annual reunion of the above was held on Saturday last, under the presidency of Mr. R. W. Ker. The company numbered about 130, amongst whom were Mr. H. Herbert, superintendent of Liverpool Parks and Gardens; Mr. J. Hathaway, superintendent Southport Parks and Gardens; Mr. J. Guttridge, curator Liverpool Botanic Gardens; and many of the leading nurserymen. The tables were graced by a number of well grown plants by the kindness of Messrs. R. P. Ker and Sons, the whole of them being admirably carried out by a few members of the committee. The principal toast of the evening was that proposed by the chairman on horticulture, in which he gave a retrospect full of interest. Reference was made to the reduced cost of glass, to the great strides in heating, and the better forms of ventilating and shading. The great strides in the beauty and variety of our glass houses, thanks to our intrepid explorers and hybridisers, made the position of the gardener incomparably better than that of his predecessor. The city of Liverpool was mentioned for its many parks, gardens, and open spaces, and for the beautifying of the courts and alleys of the many hundreds of window boxes provided and furnished by the corporation. Mr. R. G. Waterman, in responding, spoke of the pleasure and good the higher culture of plants, fruits, flowers, and vegetables, which

created a feeling of emulation in all those who saw them. In speaking of the so-called garden charities, the speaker urged upon all that were not already members to become so, that the proverbial rainy day might be provided for. To show that the Royal Benevolent Society was far reaching, every candidate in the neighbourhood had been elected to enjoy the privileges of a pensioner. Reference was made to the chairman's excellent work with the Royal Horticultural Society in many of its important functions, which was described as a credit to the society and an honour to Liverpool. Mr. T. Foster, chairman of the society, also replied, chiefly dwelling upon the influence for good of their association and similar societies.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE annual general meeting of this institution was held on Tuesday last at Simpson's Restaurant, Strand, Mr. Harry J. Veitch being in the chair. There was a good attendance, the following amongst others being present:—Dr. Masters, Messrs. Arthur Sutton, George Monro, J. Rochford, Owen Thomas, J. Whalley, G. Wythes, J. H. White (Worcester), A. H. Smee, W. Dunning, J. Hudson, Peter Veitch, J. Willard, R. Piper, H. J. Cox, W. Roupell, Swift, W. Poupard, R. Dean, J. Fraser, Melady, W. Icceton, and G. J. Ingram (secretary).

The minutes of the last general meeting having been read and confirmed, the chairman said how grieved they all were to hear of the grave illness of Her Majesty the Queen, who had been a patron of the institution since 1851. It was resolved that the following telegram be sent to H.R.H. the Prince of Wales:—"The subscribers to the Gardeners' Royal Benevolent Institution, at the annual general meeting now assembled for the election of pensioners, desire to express the deepest sympathy with their president, H.R.H. the Prince of Wales, and every member of the Royal Family, in their intense anxiety consequent on the most alarming illness of Her Majesty, who has been patron of the institution since 1851."

(Signed) VEITCH, Chairman.

The secretary then read the annual report and balance sheet. The chairman moved the adoption of the report and balance sheet, and proposed a hearty vote of thanks to the committee for their labours during the past year. H.R.H. the Prince of Wales had become president of their institution, and T.R.H. Princess of Wales and Duchess of York patronesses.

The auxiliaries were doing valuable work, from Worcester £500 had altogether been received, and Reading, the youngest auxiliary, had sent over £100.

Dr. Masters seconded the adoption of the report, which was carried unanimously. The re-election of officers was then proceeded with, and, excepting that the following members were placed on the committee in place of several members retired, no change was made. Additions to committee:—Messrs. Bailey Wadde, Fleming, F. W. Moore, of Glasnevin, E. T. Cook, and W. Barnes. The following were placed on the funds without election, as they are in distressed circumstances, and have in every way complied with the regulations. Isaac Clark, William Cotton, William Craggs, John Eastwood, Thomas Gale, and Elizabeth Harris. The voting resulted as follows:—Agnes Wright, 7,916; William Smith, 6,299; Thomas Tyler, 5,208 (a life member and not a non-subscriber); George Wills, 4,975; James Thatcher, 4,671; John Gibbons, 4,604; Cecilia Kent, 4,228; Elizabeth Hackwell, 4,190; William Tillery, 3,961; Samuel Mills, 3,937.

In consequence of Samuel Morris not having been placed on the funds, James Finch with 3,486, and William Moore with 2,003 votes, were elected, they being next in order on the list. Votes of thanks to the chairman and scrutineers closed the meeting.

At the friendly supper held afterwards many country members were present amongst the numerous company. Alderman R. Piper was in the chair, supported by Messrs. Harry J. Veitch, N. N. Sherwood, Arnold Moss, J. Harrison (Leicester), W. Roupell, Peter Veitch, George Monro, H. Asbee, H. J. Cutbush, E. J. Monro, G. Wythes, H. Williams, J. H. White (Worcester), J. Willard, Peter Kay, Sweet, Osman, R. Sydenham (Birmingham), G. H. Richards, E. T. Cook, B. Wynne, W. Poupard, Glendenning, J. Hudson, &c., and G. J. Ingram (secretary).

The chairman, at the conclusion of the supper, had but one duty to perform, and that a very sad one, simply to announce the lamented death of the Queen, declaring the proceedings closed.

A telegram was received from Captain Holford, in the name of H.R.H. the Prince of Wales, thanking the company for their sympathy, as expressed in their telegram sent to Osborne in the afternoon.

Summary of balance sheet:—The total receipts for the past year amounted to £4,555 5s. 5d., which together with £3,115 10s., amount on deposit, and a balance of £950 14s. 7d., totals to £8,651 10s., leaving, after expenses, a balance of £1,028 3s. 3d.

Malaria and mosquitoes in Hong Kong.—A preliminary report by Mr. J. C. Thompson, M.D., M.A., regarding a research into the prevalence of mosquitoes and malaria in the colony of Hong Kong and in the new territory, has recently been published. Valuable assistance has been rendered by Mr. W. J. Tutchter, assistant superintendent of the Government Botanic Stations, Hong Kong. Dr. Thompson, in his report, says: "A fact of very great importance has been brought to my notice by Mr. Tutchter. The anophales (a genus of mosquitoes) occasionally departs from its usual habits, and may breed in artificial collections of water. With Mr. Tutchter I recently examined one of the Chinese flower nurseries at West Point, and found in many flower pots con-

taining water the larvæ of anophales and culex abounding side by side in the same vessels. I have received the assurance of Mr. Tutchter that the vessels containing the larvæ were not in a stagnant condition for any reason connected with the flower-producing industry, and could equally well be kept fresh; and in a neighbouring garden which I visited I found as many vessels containing water, but hardly any containing larvæ. The owner of the garden told me that he frequently empties all dishes on account of what he called the water mosquitoes. It would therefore be no hardship to insist on these nurserymen keeping their gardens in a condition better calculated to promote the public health."

The variegated Buckthorn.

A friend who has visited many of our English gardens, both large and small, tells me the variegated *Rhamnus* is seldom seen. This is a pity, as it is certainly one of the brightest ever-green wall plants, and makes an admirable contrast to the deep green leaves of such things as *Magnolias* and *Escallonias*, the scarlet-flowered *Cydonia*, or the scarlet-berried *Crataegus*. The long, slender shoots, too, are very useful in a cut state and stand well. It is of easy culture and will flourish in a poor soil; indeed, the variegation is, I think, more pronounced under these conditions. A few young shoots may be layered annually at the base of the old plant, and, if the soil about them is kept moist, nicely rooted stuff will soon be available.—E. BURRELL, *Claremont, Surrey.*

Rhododendron præcox.—The crossing of *R. ciliatum* with other dwarf-growing species has produced a number of very pretty and useful early-flowering hybrids. Of the number the one under notice is possibly the best. It was raised by the late Mr. J. Davies, of Ormskirk, by crossing *R. ciliatum* with the rosy purple winter-flowering *R. dauricum*. In general appearance it does not resemble either of its parents very closely. It has the bushy habit of *R. ciliatum* with the small leaves of the other parent, the flowers being intermediate in size and rose coloured. Though perfectly hardy it needs protection while in flower, its natural flowering period being the end of February. Grown for the cold greenhouse it is very useful, as it may be flowered several years in succession in the same pots, and with slight forcing may be had in flower from Christmas onwards. Several plants are growing in borders in a cold house at Kew, where they flower with great freedom.—W. D.

A new *Buddleia* (*B. Colombiæ*).

In the current number of the *Revue Horticole* of Paris the editor, M. André, gives a description, illustrated by a good woodcut, of the above-named shrub, which he has grown for the last eight years in his garden at the Villa Colombia at Cannes. He has provisionally named it after his villa, as after long search amongst herbarium specimens he has been as yet unable to identify it with any of the 106 known species of the genus. He does not know its native country or anything about its origin, save that it was a chance seedling that came up amongst a lot of seeds of the same family received from different parts of South America without names and sown together. He believes it to be only half-hardy, as most things from that region are in this country, except in some parts of Devon or Cornwall, and says that it resembles somewhat the South African variety known as *B. salviafolia* with greyish white flowers, which is sometimes met with in the gardens near Mentone and the Cap Martin. From the woodcut I should say that the habit of the plant somewhat resembles that of *B. variabilis*, excepting it appears to have much slenderer stems. The individual flowers are pure white, and seem in size somewhat larger. It is a late spring bloomer, so is seldom seen in flower by the winter visitors to the Riviera unless they prolong their stay in that beautiful region to a later period than they usually do. It is to be hoped that this beautiful new shrub may ere long be introduced to our southern gardens, where with some protection it might survive; it should also be an ornament to such fine conservatories as the North American house at Kew. It will soon be sent out by Messrs. Nabonnand, of Golfe Juan, Cannes, France.—W. E. GUMBLETON.

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ANNUAL FLOWER SEEDS.

GOOD gardeners are now conning their seed lists and making out their own lists of what is wanted for the coming season. Many annuals, such as Poppies, Nemophila, Limnanthes, Omphalodes linifolia, and the large annual Iberis, with the first batch of Sweet Peas, should have been sown last autumn—in August and September; indeed, excepting Sweet Peas, scarcely any of these are worth sowing in the spring. But there still will be the bulk of the good annuals and biennials, and the large section of half-hardy annuals that are raised in frames, pricked out when large enough and put in place in the last days of May or the earliest of June. Besides their garden use, it should be remembered that many are wanted for cutting in some quantity, so that provision should be made for sowings in the reserve garden of Mignonette, Sweet Peas, Sweet Sultan, Scabious, Stocks, and Asters. For this use of the Stocks and Asters the tallest growing and most branching kinds are the best; indeed, observant gardeners' eyes are being opened to the fact that these are not only the best for cutting but also for garden ornament. Both are plants whose nature is to branch, and the dwarfing that has so long gone on, in response to the false demand for general dwarfing for bedding use, is now so little desired that seedsmen will do well to reconsider the whole question.

The great and well-deserved popularity that during the last two years has been gained by the handsome single September-flowering Aster of bold bushy growth (*Callistephus sinensis*), and by the other bold Asters of the Comet and Ostrich Feather class, should show seed growers that with the great growth of horticultural interest people are learning for themselves what is beautiful and desirable. There can scarcely be a doubt that all who have seen these Asters, and have acquired some knowledge of garden material and some power of discernment between the better and the worse, will have these rather than the dwarfed forms.

The dwarf ones are not entirely without their use, for they are charming in tiny cottage gardens, and much liked by poor people, who buy them in pots from costermongers' barrows, and these are uses worthy of all respect; but for wider garden use the larger-growing kinds are by far the best.

There are, unhappily, always a few people

who are ready to make captious criticism and who may be inclined to say that we advocate straggling plants. We desire to say most emphatically that this is not the case. We desire to see in gardens and to urge seed growers to produce the most beautiful plants in every case. If by nature the plant has a fairly good flower and a straggling habit it is the business of the seed grower to select his stock till the habit has come to just that point that is the most beautiful of which the plant is capable, but not to go beyond this as has so often been done, still less, for the sake of having a "novelty" to offer, to put forward any debased or uglified form of a good plant, as has lately been done in the case of the Foxglove.

There is a tendency to give undue preference to the dwarfed forms of that grand late autumn plant the French Marigold, whose larger kind is of incomparable beauty in such mild seasons as the last two, when in many gardens it was the finest thing to be seen in them throughout October. The dwarf kinds, so well grown in Scotland, also have their uses; but it should be remembered that there are plenty of other plants of about the same stature, including *Tagetes signata pumila* and *Tagetes lucida* (a capital plant much too little grown), also dwarf forms of *Zinnia elegans* and *Z. haageana*, whereas there is nothing of the same late season of French Marigold of its own stature and effect. The fine African Marigold, it should be remembered, is over by the end of September.

FLOWER NAMES.

WE must to some extent hibernate with our flowers, and the removal of labels, the writing up of garden note-books, and the perusal of piles of autumn catalogues may seem but thin ghosts and skeletons of gardening, names instead of things. But we may do a good deal of winter gardening in names; they are full of association and interest, and lead one's thoughts down many by-paths of knowledge, or, it may be, of ignorance. Certainly as we grow older we feel more and more the impotence of names. When the child of my garden stays her feet at some conspicuous flower and asks, "Father, what is this?" my answer that it is *Gladiolus brenchleyensis* or *Phlox* somebody or another is by no means the kind of information she seeks. Her young soul is still near to the inner spirit and reality of things; she desires to know what such a beautiful thing may be in itself, something of its ultimate essence and provenance, not its mere number or ticket. Perhaps it is a symptom of second

childhood, in a favourable sense, that as we advance towards the other extremity of life there grows upon us this craving to penetrate below the name or even the outward form:—

"Flower in the crannied wall,
I pluck you out of the crannies;
Hold you here, root and all, in my hand,
Little flower; but if I could understand
What you are, root and all, and all in all,
I should know what God and man is."

But there are those who find final satisfaction in the name, in the fitting of every flower into its mental row and pigeon-hole. To them a plant bears its soul on its label, as a lobster carries its bones on its back. An authority on plant nomenclature was asked in my presence by the owner of a beautiful garden to supply the name of a fine outdoor purple *Ipomæa*. Seeing him for once at fault I mischievously suggested the quite imaginary name *Ipomæa Veitchii*, on the principle *omne ignotum pro Veitchii*. I still see his face as he answered, with a solemn pause after each word, "I—know—no—hardy *Ipomæa*—of that—name," and lapsed into a shocked silence. To him that nameless *Convolvulus* was a barren stalk, the Rose misnamed was scentless, the unlabelled garden infinitely less entertaining than a *hortus siccus*.

The ways of looking at a flower are so diverse that flower names may mark off not only individuals but even races. The name Love-in-a-mist for *Nigella* pertains, I think, to the delicate Celtic imagination, but a common name for the same flower in the eastern counties is Devil-in-a-bush. There is your grosser Teutonic mind, peopled with underground goblins and imps instead of creatures of sunlight. In an Irish fairy tale the Evil One himself is less malign than the ordinary elf, the Rumpelstiltskin of the German stories.

Errors, too, in plant names may be grouped according to men and minds. The too-clever-by-half explanation of a name is not uncommon, as in the instance of the Jerusalem Artichoke. Some ingenious person reasoned that as *Girasole* is Italian for Sunflower, and this Artichoke is a *Helianthus*, therefore "*Jerusalem*" must be a corruption of *Girasole*. But unfortunately the vegetable is never called *Girasole* in Italian, and was grown and received its name in England long before it was introduced into Italy at all. *Jerusalem* means simply outlandish, strange, novel. The village name hereabouts for Lungwort is *Jerusalem Cowslips*; *Phlomis fruticosa* is *Jerusalem Sage*. An old man who once worked in my garden called *Scarlet Runners* *Jerusalem Beans*, and remembered when *Mangel* was called *Jerusalem Beet*. The interesting point is that the word is, no doubt, a survival from days as far back as the Crusades, when Palestine was the representatively foreign country, just as French or Frenchified stood for foreign in the last century. The great "erratic boulders" of stone alien to our chalk country which lie on the Marlborough Downs came from no man knew where, and so are to this day "*Sarsens*" or *Saracens*.

The vaguely sentimental gardener is a foe to

accuracy in names. "Windflower" conjures up flowers nodding in cool breezes, which, by the way, are apt to be cooler than is desirable in Anemone time. *Anemos*, it is true, is Greek for wind, but *Anemones* one and all, save *pulsatilla*, detest wind, and affect the shelter of copse and Oliveyard at home and abroad. A friend of mine, whose knowledge on such questions is great, suggests that the dispersal of the fluffy seed by the wind may have given the name; but in Greece the *Anemones* are so vividly coloured that the bloom would take precedence of the seed as a characteristic, and I prefer to think that *Anemone* was the *Wood-flower*, since *nemos* is Greek for a woodland glade. If this is so, the flower's likings are doubly emphasised in *Anemone nemorosa*.

Misinterpretations of the Latin and Greek are plentiful, and prevail even among those who should know better. *Aquilegia* is a common stumbling block. The first gardening dictionary I open derives it "from *aquila*, an eagle, in reference to the form of the petals." I once rather unkindly asked a guest, an Eton and Oxford man and a somewhat distinguished scholar, for an explanation of the name, and was delighted by the alacrity with which he enlightened me—"Oh, don't you know?"—and exhibited the five little *eagles* clustered together. I pointed out that he was dealing with the latter half of the word as the whist player in "Happy Thoughts" dealt with his embarrassing trumps—"threw them away with the rubbish at the end." *Aquilegia*, from *aqua-lego*, means the water-gatherer, and anyone who has admired the glittering, diamond-like globules in the leaves after rain or dew must own that there are few apter names. It is the Latin-French *Columbine*, of course, that describes the dove-like sepals. The resemblance, especially in the lightly-built, clear blue, wild *Columbine* of our Hampshire woods is so striking as always to remind me of the exquisite Roman Mosaic of the drinking doves in the Palatine Museum. Both the botanical and the popular name of this flower are excellently descriptive.

Why, in these Daffodil days, has no one corrected the spelling of "Campernelle" Jonquil? *Campanella*—plural "e"—is Italian for a little bell, and exactly the same word as the Latin *campanula*. Flowers of various colours and forms, but having the common feature of an entire, more or less bell-shaped corolla, are in all languages "bell-flowers."

Plants, many of them, are vexatious things enough, but they are not responsible for the vexations connected with their names. A celebrated whip of the Tedworth Hunt, when things had gone amiss, used afterwards to say apologetically, "I'm afraid, sir, I swore *more than I ought*." Changes by edict of a familiar name, such as the impossible *Kniphofia* for *Tritoma*, have brought many a mild spoken gardener into a similar predicament. In the case of a common flower it is neither advisable nor feasible to change the accepted name. "Tufted Pansy" may be a more expressive name than *Viola*—though I observe that many of the newer varieties decline to tuft—but it has not "caught on" in current speech. People will not use two new words where one old one will serve, and the old name has had quite too long a start to be overtaken. Words are rebellious things. Louis XIV. is said to have commanded by royal proclamation that *carrosse* should change its gender, but it remains masculine to this day, despite analogy and the Grand Monarque.

Then there is the difficulty of finding new names for new flowers. Historical, mythological, astronomical, topical, fanciful, all seem used up. Personal names are insufficiently

descriptive. "Uriah Pike" scarcely expresses the fragrance or the colour of the finest crimson Clove Carnation, and even this mine may be worked out. When we have exhausted all our Ladies *Patricia Plantagenet* and *Mistresses John Jones* there will remain no form of name but "Seedling 1001." This trouble commonly besets me as a raiser of seedlings. If a good name comes to mind it is sure to have been anticipated, and I endorse the old Roman's malediction, "Perish those who said our best things before us!" I thought *Ariadne* a befitting name for a refined ivory-white Leedsi Daffodil, but some one demonstrated that there was already a Dutch *Ariadne*, having a "stout yellow trumpet and broad substantial perianth" features reminiscent of an alderman rather than of the fair maid of Crete. *Una* seemed unappropriated, but it appears that two or three other flowers besides one of my *Narcissi* have lately received the name. Either Spenser has suddenly become fashionable or the dearth of names has sent florists to all recesses of literature. An eminent firm have named two of their new *Roses* *Una* and the *Lion*. *Una* is a pretty flower name, and one has heard of *Tiger Lilies*, but what is the *Lion* doing *dans cette galère*? Coupled names are not necessarily both suitable, for example, *Beauty and the Beast*.

GEORGE ENGLEHEART.

NOTES OF THE WEEK.

Obituary.—We are very sorry to hear of the death of Mr. Henry Boyle, Eller How, Ambleside, one of our most valued correspondents and a keen gardener. —M. G. A. Chatin, the distinguished French botanist died, we regret to say, on January 13, after a long illness.

New Chrysanthemums.—Mr. H. J. Jones, of Ryecroft Nursery, Hither Green, Lewisham, has forwarded to us his excellent portfolio of new Chrysanthemums for 1901. The illustrations have been reproduced from photographs, and will be very helpful to those making a selection of new kinds.

Iris tingitana.—Many of your correspondents seem to fail to flower this *Iris*. I grow it in full sun, the soil consisting of 3 inches of gravel over a clay bottom and 9 inches of soil over the gravel; it flowers to perfection. —L. BUCKLAND, *Camperdown*.

Jubilee of the "Gardeners' Chronicle."—We are pleased to see in *Le Jardin* an appreciative reference to the fact of our contemporary having attained its jubilee. It concludes by expressing the wish that the fifty years to come may be as prosperous as those that are passed, as well in the interests of horticulture as of the journal itself.

Geranium Lowii (or Lowii).—I saw this plant, which is, I believe, a native of Madeira, flowering freely last summer in a very warm spot at the foot of Snowdon. It has a curious rough stem about 10 inches in length, and looks almost like a miniature Palm. The flowers are a bright pinkish purple, and offsets are produced freely. Messrs. Clibran, who supplied the plant, say it is hardy in warm, dry situations. It is, I think, well worth growing. —E. C. BUXTON, *Coed Derw, Bettws-y-Coed*.

Liverpool Parks and Gardens.—In the interesting address recently delivered by Mr. R. W. Ker, at the social gathering of the Liverpool Horticultural Association, he submitted some facts and figures of the above that show Liverpool is not unmindful of horticulture. The number of open spaces under the management of the parks and garden committees amounts to forty-five, and find employment for 170 men. During the season special exhibitions of Chrysanthemums, Begonias, and Cannas are arranged at Lifton Park and the Botanic Gardens, which are visited by

crowds of citizens and visitors. Window boxes are provided, furnished, and fixed free of cost during the summer months, and if placed end to end would reach 14 miles. Tubs containing bush trees (*Privet* principally) number 500, and are placed at the more important positions in the town. The committee is formed by a selection of the members of the city council, under the indefatigable chairmanship of Alderman Joseph Ball, who is ably supported by the large staff under the control of Mr. H. Herbert, superintendent of parks and gardens.

Mr. George Stanton.—This well known horticulturist, who for many years has had charge of the gardens at Park Place, Henley-on-Thames, the residence of Mrs. Noble, is honoured by the French Government with the distinction of Chevalier du Mérite Agricole. We heartily support this nomination, a fitting recompense to an excellent cultivator and a worthy man. Mr. Stanton has always shown the greatest kindness to young French gardeners, and particularly to old boys of the Versailles School of Horticulture, who come over to England in order to perfect themselves in their professional studies. He has employed many of them during the last twenty years. It is proposed by his juniors to offer a present to Mr. Stanton as a mark of congratulation and esteem. —*Le Jardin*.

Galanthus Kilkenny Giant.—This is a curious Snowdrop that I owe to the kindness of Mr. James Allen, who sent it to me some years ago; by way of contrast it is planted near one of exactly opposite habit of growth, appropriately named *Tom Tit*. The latter is, however, later than usual, while its giant companion has come before its wonted time. It is singular because of its tall habit for a form of *Galanthus nivalis*, and it has, moreover, a lankiness about it which reminds one of a tall but undeveloped youth. It grows in some years to about a foot high, and thus is a striking contrast to *Tom Tit*, which is not half its height. The flowers of *G. Kilkenny Giant* are not large, but are of the true *nivalis* type. It was, I believe, a selection of Mr. Allen's, and is interesting as showing one of the extremes which Snowdrops show at rare intervals in the course of reproduction from seeds. —S. AKNOTT, *Carsethorn by Dumfries, N.B.*

Camellias in the open.—I was greatly interested recently on visiting St. Leonard's Hill, Windsor, the residence of Sir Francis Tress Barry, Bart., to see how unusually well the *Camellia* grows there out of doors. One sees bushes of this plant in all parts of the grounds; in fact, the garden in the vicinity of the mansion might almost be described as a *Camellia* garden. Many are planted in the most exposed positions, and appear to thrive equally as well as those that are sheltered. It was surprising to learn that no protection whatever is afforded these *Camellias* during the winter; not even a mat is placed over them. When one considers that the situation is high and fully exposed to the east, this is all the more remarkable. On January 25, the date of my visit, one bush was bearing quite a number of flowers, and the others were simply bristling with good sound buds. Sir Francis remarked that frost apparently has no injurious effect upon the buds unless they are well forward, and these are so numerous that a good display is always obtained. Some of these *Camellia* trees had been out of doors for the last twelve or thirteen years, and were far more vigorous and bearing more blossom buds than is often the case with plants under glass. This would seem to infallibly prove that the *Camellia* is hardier than it is usually supposed to be. Sir Francis Barry has on several occasions exhibited at the winter meetings of the Royal Horticultural Society *Camellia* blooms cut from bushes in the open, and much interest has been evinced in the matter. I feel sure that if Mr. Brown, the head gardener at St. Leonard's Hill, who is largely responsible for the successful treatment of these *Camellias*, would send a few notes concerning them, they could not fail to be of interest to your readers, very many of whom are probably not aware that *Camellias* can be successfully grown out of doors in other than the favoured southwestern counties. —T. F. [We shall be pleased

to hear of other similar instances from correspondents. There seems to be no reason why the Camellia should not prove as useful as the Azalea or Rhododendron, as its hardiness can apparently be no longer doubted.—EDS.]

Horticultural Exhibitions at Ghent.—The Royal Agricultural and Botanical Society of Ghent has just issued the programme of two exhibitions for this year. The first, for Orchids, exotic plants, flowering shrubs, and table and floral decorations is from April 28 to 30; the second, for Chrysanthemums, fruits, Orchids, and ornamental plants, from November 10 to 12.—M. FIERENS, 135, Coupure, is the secretary.

Frogmore.—The thoughts of the British nation will to-day be centred on quiet, secluded, peaceful Frogmore, a spot that will long bear a solemn and pathetic significance to every true-hearted Briton, for here is laid to rest our beloved Queen beside the Consort whom she loved so well, and whose memory she ever held sacred! Owing to the cherished memories and associations attached to Frogmore Grounds, their privacy

by our late Sovereign, and chosen by her as a final resting-place. Our photograph is by Russell & Sons.

Forthcoming Barley competition.

—We observe that the schedule for the fourth of the series of these interesting competitions organised by Messrs. William Colchester and Co., the well-known agricultural manure manufacturers at Ipswich, has been issued. There are, in addition to the main prizes, additional prizes allocated to each separate county, and this has been done for the first time this year, so that it will be seen that even if the southerly or northerly areas are not able to beat Suffolk or Norfolk, there is a definite share in the prizes reserved to other counties. The competition last November was the largest yet held, and we anticipate the popularity of these competitions will continue to grow as it well deserves to do.

Galanthus Melvillei Aurora.

—*Galanthus Melvillei* major is one of the finest of our Snowdrops of the *nivalis* section, although I must confess that I cannot grow it as well as at Dunrobin Castle, whence Mr. D. Melville, the gardener, very courteously sent me last year a

The first was *D. Lemoinei*, sent out in 1895. This is a delightful shrub for flowering under glass, but it is not always a success when in the open ground. Since then we have had from the same source *D. Lemoinei compacta*, *D. Lemoinei Boule de Nieve*, *D. gracilis rosea*, *D. gracilis venusta*, and *D. gracilis campanulata*, and now as new plants for the present year M. Lemoinei announces two kinds—*D. gracilis carminea* and *D. kalmiaeflora*. The first-named is described as resulting from *D. gracilis* crossed with *D. discolor purpurascens*. In general appearance it is more in the way of *D. gracilis*, but the flowers are of a soft rose colour, with the reverse of the buds deep carmine. The branches arch like those of *Philadelphus Lemoinei* with the weight of blossoms. The second novelty—*D. kalmiaeflora*—was obtained from *D. discolor purpurascens* crossed with *D. parviflora*. It is described as one of the finest spring-flowering shrubs known, bearing as it does about the middle of May large corymbs of flowers, in colour bluish, edged with a deeper tint, while the buds are rosy lake. The prominent stamens form a crown-like centre to the flower, as in certain *Narcissus*, while the flower itself is quite distinct from that of other *Deutzias*, and reminds one of the umbels of a *Kalmia*.—H. P.

Bamboos in pots.—Where house decoration, alike in the way of plants as well as cut flowers, is required, and accommodation for Palms, *Dracænas*, &c., is limited, an excellent substitute will be found in the hardy Bamboos. From some large clumps of *B. Metake* in low lying parts of the pleasure grounds I potted up some offsets about 18 inches high a few seasons back, and they did so well and proved such a decided acquisition for house decoration that the idea has been repeated as circumstances required, with the result that we have a healthy batch of plants, in sizes varying from 7 feet downwards, that are always at hand for different purposes. When not required in the house they occupy a position under a north wall, and beyond copious supplies of water want no other attention. At the approach of sharp weather the pots are put closer together, and sufficient Bracken packed around and above them to protect from frost.—E. BURRELL.

Epacris purpurascens flore-pleno.—This is quite distinct from any other of the numerous forms of *Epacris* by reason of its double blossoms, a feature rarely met with among its immediate allies; indeed, in this genus and that of *Erica*, with its species and varieties innumerable, I only know of two with double flowers, viz., this *Epacris* and a variety of the common Ling or Heather (*Erica* or *Calluna vulgaris*). Apart from the duplex character of its

blossoms, this differs from the generally cultivated forms of *Epacris* in being altogether a stouter growing plant, whose long shoots are thickly clothed with leaves, from the axils of which the flowers are borne in great profusion. In a good form (for they vary somewhat) the flowers are very double, like little white rosettes, but in the bud state they are slightly tinged with pink. So numerous are these blossoms that when in good condition the entire shoot is wreathed with them for some distance. It was first distributed in 1883, under the name *E. onosmeiflora flore-pleno*, and at that time was thought likely to prove a great acquisition, but it never attained the popularity that was then anticipated for it. Still, for all this it is both pretty and distinct, and adds variety where a collection of *Epacris* is grown. Being of a particularly stout, succulent nature in order to succeed in its propagation, the cuttings must be taken from the weaker shoots.—T.

Eranthemum pulchellum.—We have none too many blue-flowered plants of any description, let alone of winter-flowering ones, that need only moderately warm house for their cultivation.



IN THE GROUNDS AT FROGMORE.

has ever been strictly guarded. Here is the mausoleum wherein is buried Her Royal Highness the late Duchess of Kent, and here is situated Frogmore House, the residence of the late Queen's mother also. The gardens, covering some forty or fifty acres, are exceedingly beautiful, and contain a number of choice Conifers, the majority of which are doubly interesting from the fact that they have been planted either by or for members of our own Royal House and Royal personages from abroad. Amongst the numerous evergreen and deciduous trees that adorn this peaceful demesne, a specimen of the deciduous Cypress (*Taxodium distichum*) is conspicuously fine, and has an added interest when one learns that this was Her Majesty's favourite tree. Quite in keeping with the associations of Frogmore is the natural old-world gardening everywhere in evidence; the several arbours, some covered with Ivy, others with Roses or Honey-suckle, the beds and borders of Roses, Violets, Heather and other old-fashioned flowers in which Queen Victoria took delight, serve but to accentuate the spirit of repose that has ever prevailed, and always will prevail around the spot held sacred

couple of fine bulbs bearing flowers. They were much handsomer than any flowers I had grown of this species before, which I attribute to the soil at Dunrobin being more peaty and moister than that here. Of the same style of flower, and possessing that purity of colour which is one of the charms of *Melvillei* major, *Aurora* comes earlier into flower, and this is certainly a gain to those who look eagerly forward to the first flowers of the year. As regards its form, one need only say that *Aurora* is one of Mr. James Allen's own seedlings, and that he selected it as worthy of a distinctive name. To those who know the care taken by our great Snowdrop specialist, this is a sufficient warrant for the quality of this Snowdrop. It has, moreover, a good constitution.—S. ARNOTT.

Two new Deutzias.—Within the last few years that noted hybridist, M. Lemoinei, of Nancy, has devoted much attention to the *Deutzias*, with such a successful result that by the crossing and intercrossing of those desirable species—*D. gracilis*, *D. discolor purpurascens*, and *D. parviflora*—several new and desirable kinds have emanated from that noted establishment.

The above-mentioned is one that possesses both these characteristics. For several months past it has been in flower with me, and not even yet have its last blossoms appeared. These, which are of a rich bright blue, usually first appear about November, and are continued in a surprising manner right through the winter. The leaves, too, are rather prettily marked with grey. From cuttings inserted in February or March good-sized plants that will bloom well may be had by the following winter. They take root easily if placed under a bell-glass in a warm house in light soil. A mild hotbed is of great assistance in striking cuttings at this season of the year, and wherever possible should always be used. The former take root much more quickly, and are therefore in a position to develop into better plants than if they lingered some time before rooting. As soon as the cuttings are well rooted they should be placed singly in 3-inch pots, using as a compost equal parts of peat, loam, and leaf-mould, with a good sprinkling of sand. Keep them during the summer in a warm house near to the glass, and pinch them so as to induce a bushy and shapely habit of growth. *Eranthemum pulchellum* (nervosum) grows strongly, so that at the final potting some of the plants will be large enough to place into 7-inch pots, although those of 6 inches diameter will probably be suitable for the majority. Occasional applications of stimulants in some form are of great benefit in the autumn. *E. pulchellum*, an East Indian plant, has been known more than 100 years, having been introduced so long ago as 1796.—T. F. W.

Acacia platyptera.—Of the hundred or more species of *Acacia* under cultivation this is one of the most distinct and also one of the most useful. It is an Australian plant, and makes a mass of thin wiry growths peculiar on account of the wide flattened wings which grow from two sides of the stem. The flowers are in small spherical heads, deep yellow in colour, and are produced singly, or several together from every joint on the upper half of the previous summer's wood. It grows and flowers well, either as a pot or border plant, and thrives in a mixture of peat and sand. As with other *Acacias*, pot plants are greatly benefited by being plunged out of doors in summer.—D.

Acokanthera spectabilis.—In several of the houses at Kew specimens of this South African plant are now in flower, their fragrance quickly making their presence evident. Although naturally a bush, with a little training it may be grown as a roof plant. With the thorough ripening of the wood that follows under this treatment an increased quantity of flowers is obtained. If, however, it is planted in a mixture of peat, loam, and sand in a warm greenhouse, where it can obtain plenty of light and air, it blooms very satisfactorily as a bush. The leaves are oval, 4 inches to 5 inches long, deep green, and leathery. The flowers are pure white and borne in dense clusters from the axils of the leaves. Though individually small, the large numbers produced together render the inflorescences very conspicuous, while, as before stated, their presence may be readily detected by their fragrance. As a pot plant it is apt to become unsightly; otherwise it is useful to group with others during the six weeks it is in flower.—W. D.

Salvia Heeri.—To those who value large specimen flowering plants in very early spring the *Salvia* under notice should commend itself. You have recently published several notes on blue winter-flowering *Salvias*, and as a scarlet one for the present season S. Heeri is equally as deserving of mention. The flowers have deep scarlet corollas, and are borne in loose terminal racemes. Well-grown plants reach a height of 3 feet to 4 feet or more, and produce a profusion of blossoms. Cuttings taken in spring, after the flowering season is over, will root readily. The method of culture that we adopt, and which usually gives very satisfactory results, is to transfer the cuttings, when well rooted, into large 3-inch pots, and in the month of May plant them out in a well-prepared and sheltered portion of the garden. *Salvias* enjoy a rich soil, so this must be borne in mind and the ground well prepared and enriched

accordingly. If a distance of 3 feet is allowed between the rows, and the plants are the same distance apart from each other, the latter will be able to enjoy to the full all available light and air, important factors in their culture. Should the summer be hot and dry, the *Salvias* will need frequent waterings, and would be all the better for a light mulch. It is important to make sure that the plants are not in want of water when removed from their pots. They must be well watered before and after planting. We usually take them up again for repotting towards the end of September, placing them in the smallest pots that are convenient. Those of 10 inches and 12 inches in diameter are generally found to be most suitable. Every care, of course, is taken so as to damage the roots as little as possible in repotting. Attention to this matter has a deal to do with their speedy re-establishment. A house that is kept warm and close is the best place for the newly-potted plants for the first week or so; root action is greatly assisted by it. If these apparently minor matters are attended to with care but few leaves will be lost, and very useful winter flowering plants will have been obtained with a minimum of labour.—T. W.

TOWN GARDENING. FURNISHING FLOWER BEDS IN WINTER.

ONE of the eyesores we have usually to put up with in going over the garden at this season is occasioned by the empty flower beds, and we are apt to regard it as simply one of the timely reminders that the dulllest period of the whole year has arrived. In many instances there is no necessity that all the beds should be empty and unattractive even at this dull time, as it is quite possible to have many of them furnished and made fairly presentable. This is, perhaps, a matter of very much more importance in a public park than even in a private garden, as the persons who have to be catered for in the former case are far more numerous than in the latter, and may not be so considerate and lenient in their judgment of things as private employers.

Of course where bulbs are grown in beds it would be impossible to improve their appearance; but then the period of bareness is of much shorter duration than when the beds are only used for summer-flowering plants, and their brilliancy so telling that the short time during which they are bare and cheerless is hardly noticed. It is the beds containing no bulbs that require winter furnishing, and there are invariably many such in the majority of gardens and parks which, if only used for summer bedding, are empty for nearly six months of the year. Some gardeners recommend filling up such beds with small branches of evergreens like Holly and Laurel, and by this means hiding the bare soil out of sight. A still better method, however, of attaining this end is the old-fashioned one of planting them with evergreen shrubs grown on in pots and arranged in various colours and sizes in the beds. This is a plan I have adopted for several years past, and find it answer admirably. By mixing golden, silver, and green foliated plants of different species together very pleasing effects are obtained. The best subjects for this work are the dwarfier growing so-called *Retinosporas*, such as

R. obtusa plumosa,

with its gold and silver forms *R. ericoides* and *R. squarrosa*, the various beautifully variegated forms of *Euonymus japonicus*, including *E. radicans*, several varieties of *Cupressus lawsoniana*, and *Cryptomeria elegans*. I have also tried *Hollies*, *Aucubas*, and golden *Privet*, but with such little success that they will be discontinued in the future. The golden *Privet* would be an exceedingly good plant for the purpose were it not for the fact that in a young state its leaves are apparently not so persistent as when it gets older, and many of those grown in pots lose their leaves

before the new year, and for this reason have to be discarded.

Where this style of winter bedding is carried out to any great extent it is necessary to keep up a supply of young shrubs ready to take the places of those which either become too large or too shabby for the purpose, and hence it is essential to propagate a number of shrubs each year. We take cuttings of the shrubs enumerated above about the month of July, and strike them in pots plunged in ashes in a cold frame. By the end of October they are sufficiently rooted to be potted into 3-inch pots, and they are again put back into a cold frame where they remain until the spring, when they are put out and plunged in the nursery. These young shrubs are first used when two years old

FOR EDGING LARGE BEDS

or filling up small ones, and are continued in use every winter afterwards, until, as previously stated, they get too large or shabby. I make it a point to dispense with shrubs for bedding purposes as soon as they require anything larger than an 8-inch pot, for they then become too cumbersome and are not so easily moved about from place to place as when in smaller-sized pots. If the only fault against a pot shrub is its size, it may possibly be utilised to fill up an odd corner in a shrubbery where a blank has occurred, and thus serve another term of usefulness. One great advantage of having flower beds furnished with pot shrubs is, that although they are at all times presentable and even pleasing in appearance, yet as soon as it is desirable they can be dismantled without doing the slightest injury to the occupants, and may be forthwith planted with summer bedding. How different with

BEDS OCCUPIED BY BULBS,

which have to be so carefully managed to prevent irreparable damage being done when preparing for this same summer bedding! For this reason alone, even if it were possible for me to plant all my beds with bulbs, I should fill some with shrubs in preference, so as to do away with the necessity, to a certain extent, of disturbing choice bulbs too early in the season, as would otherwise be the case, especially if the summer work were taken in hand at the earliest possible moment. By the time the beds that have been tenanted by pot shrubs during the winter months have all been replanted and put in order for another season, the bulbs in the remaining beds—if intended for further service—are in a better condition to be removed to the nursery for final ripening than if disturbed earlier.

Although the plants I have previously mentioned as being adapted for this kind of bedding are all foliage shrubs, yet there is nothing to prevent the use of early spring-flowering shrubs, which would be out of bloom by the time they were removed back to the nursery. We are growing on some plants of *Erica carnea*, *E. mediterranea*, and *E. codonodes*, with which it is intended to experiment in this direction at the first opportunity. It has been urged by some gardeners that this method of bedding is a very costly one, entailing, as it does, the continual expense of keeping up the necessary stock of suitable shrubs, as well as the great amount of labour required in attending to them during the dry summer months. This is

QUITE A MISTAKE,

as the cost of growing on the plants is quite a trivial matter, as is also the expense of attending to it while in the nursery, for the plants being plunged over the rims of the pots and growing in compact beds can be readily and very quickly watered every day if need be—by a lad using a hose-pipe over them. When it is remembered that for nearly six months of the year they require no attention whatever, and for the remaining six but very little, it will undoubtedly be admitted that taking everything into consideration there are few cheaper or more satisfactory methods of reducing the number of empty flower beds in a public park or garden during the winter months than by using pot shrubs.

Cardiff.

W. W. PETTIGREW.

THE FRUIT GARDEN.

GRAPES APPLEY TOWERS AND
LADY HUTT.

NEW Grapes are not forthcoming to the extent that new varieties of many other fruits are, and of those that have during recent years been distributed few surpass in flavour and general usefulness the best of the old varieties. Those most wanted are late keeping kinds possessing good Muscat or Frontignan flavour. There are already enough of handsome Sweetwater and various thick-skinned varieties, unless the flavour is improved, and this appears to be a defect difficult to remedy. The subjects of this note belong to the latter sections, which without doubt accounts for their not being more generally grown, although it has been said that Appley Towers is making headway to the disadvantage of Alicante for market purposes in the Channel Isles. Judging from my somewhat limited experience of it I believe it would make a good market variety, possessing as it does suitable properties for that purpose, but whether it will displace Alicante is questionable. It has, however, both a strong constitution, and is easily cultivated, producing plenty of compact shouldered bunches that set their berries freely. The berries are similar in appearance, but a little larger than are those of Alicante. They colour perfectly, and carry a thick bloom; their skin is thick, but this is apparently a failing inseparable from very long keeping kinds.

These two Grapes, although said to have originated from the same parents, do not in any way resemble each other, unless in the fact that they are alike strong growers, free croppers, and retain their foliage in a healthy fresh state longer than do most other kinds. The bunches of Lady Hutt are large shouldered and symmetrical, and their berries are large, round, greenish yellow in colour, and set freely. It is a good keeper, and possesses a brisk, pleasant sugary flavour, which improves by the bunches being kept upon the vine after the berries are ripe. This variety is certainly deserving of being generally grown for private use, perhaps more so than any other white Grape, with the exception of Muscat of Alexandria, notwithstanding the fact that its colour is detrimental to it. Did it only possess that of perfectly finished Muscat of Alexandria it would be a highly attractive and grand exhibition variety.

Perhaps owing to the conditions under which we grow these Grapes they cannot be said to have a fair trial. Canes of each were procured when they were first distributed, and Lady Hutt was inarched upon Foster's Seedling and Appley Towers upon Madresfield Court, in a house chiefly devoted to Black Hamburg ripe in August. The Grapes in this house are not required late, and consequently we have not attempted keeping either Lady Hutt or Appley Towers after the middle of December, but at that date their appearance indicated that they would keep some time longer. If grown for late use of course they would not be started into growth so early in the season as they now are. The working of Appley Towers upon Madresfield Court will appear to those who are successful with the latter variety a senseless thing to do, and Mr. Crump has very aptly compared it to putting "the beggar upon the gentleman," but I am old enough not to be ashamed to admit that I cannot grow Madresfield Court to my satisfaction. It has been tried in two houses under various conditions of treatment said to prevent the cracking of its berries, but without complete success. We have a heavy soil and a low situation by the side of a stream and surrounded by woods. Fogs and a moist atmosphere are therefore very prevalent, especially at night, and rightly or wrongly I attribute my failure with Madresfield Court to these circumstances. Amongst other modes of treatment we tried that of keeping the borders continuously wet during the growing and ripening seasons. This I notice has lately been recommended as a remedy, and it does not appear unreasonable, although in my case it was of no avail.

The system of drying the borders to an extent that causes wide fissures to appear all over them I did not try. I have seen Madresfield Court treated in this manner accompanied with the desired result in so far that it prevented cracking of the berries, but they were extremely "foxy" in colour, and I would rather be without this fine Grape than have it in this condition. There is no question about the value of this grand Grape when it is grown as Mr. Fyfe exhibited it at the last Temple show, or as Mr. Roberts grew it both at Bolton Hall and Gunnersbury Park. Such instances of success, however, I think may be taken as of comparatively uncommon occurrence, otherwise it would be much more generally grown than it is for early and mid-season use.

THOMAS COOMBER.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

CAMPANULAS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—“M. L. W.” in your issue of the 12th ult. invites Campanula lovers to give the names of such Campanulas not mentioned by herself as are irresistible. Her garden she describes as “in a small way,” and if this is to be taken literally I am afraid the hosts of the many and one things that she has so delightfully chatted about will have to give way and become “memories” only, if room is to be found for all the Bell-flowers that are irresistible. Yet what a delightful spot a Campanula garden would be, and what a long way would I willingly go to see it. Kew has many Campanulas, but I doubt if it has a tithe of the many varieties and species that are in existence. “Robinson” has over 100 kinds, and that far from ends the list. I, in “my small way,” have several varieties or species that I cannot find in “Robinson.” Is there in existence a list of all the varieties that is anything like up to date? A book might well be written on this charming family; possibly it has already been taken in hand, if so I should be glad to know of it. Our nomenclature of plants is generally admitted to be far from satisfactory, yet I doubt whether among the many families that an up-to-date nurseryman has to keep in stock there is any one so generally misnamed and wrongly labelled as the Campanula. Even some of the best houses in the trade are far from blameless in this respect. There are few things more annoying to a gardener than to give a fair price (more often than not a long price) for something reputed to be new, that is then planted carefully, and watched for some months, and then when the bloom comes to find it but an old friend with a new and false name. That is annoying, but it is nearly as bad when you have, say, G. F. Wilson from one firm and G. F. Wilson from another, to find them distinct, one a border plant, the other small enough to be grown in the rock garden. Campanula Erinus does not appear to be in “Robinson,” and last year did well with me. It is a creeper, and is covered with lavender-blue flowers. Is it, I wonder, another name for “Elatines,” which I have not grown, and which appears also to be a creeper? Then a plant of Zoyisi that flowered with me last year seemed to be similar to the Mont Cenis variety, cenisia in “Robinson.” I could give other instances that must be the experience of many others beside myself. THE GARDEN would do a great service to the trade and their general readers if it could see its way to publish a list of synonyms, if the other task, namely, a complete list, is asking too much. I will leave to some other pen better qualified than the writer to give “M. L. W.” her list.

HERBERT E. MOLYNEUX.

Brantwood, Balham, S.W.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I read with much interest “M. L. W.’s” delightful article (page 30). She could not possibly

have planted a more beautiful and interesting family of plants than the Campanulas, and although space is no doubt very precious in “the Oblong,” it would never have done to have omitted them. To an amateur the great charm of the Bell-flowers lies in the fact that the majority are easy to cultivate, and are very free blooming; in fact, there are very few families of hardy plants which give such good results for such a minimum of trouble. “M. L. W.” has started with a capital selection; she does not, however, mention two of my great favourites—i.e., *C. garganica hirsuta* and *C. Trachelium alba fl.-pl.*, the double white form of the Nettle-leaved Bell-flower, which, however, is often called *C. urticifolia alba fl.-pl.* I do not know which name is the correct one. *C. garganica hirsuta* is quite the best of all the dwarf kinds grown here, generally commencing to bloom in early July and continuing to late autumn if the weather is mild. The double white Nettle-leaved Bell-flower does not seem to be as well known in gardens as one would expect. It grows about 3 feet high, blooms most of the summer, and always gives a most useful crop of bloom in September if not allowed to suffer from drought. I never really discovered its great value until I saw it used for table decoration with some spikes of scarlet Penstemon. “M. L. W.” mentions *C. Hendersoni*. It is a lovely plant, but I do not think that it is a true perennial. A great ambition is to succeed with *C. Allioni*. I started with a good plant with one rosette, which gradually increased itself by means of a number of suckers which formed round the original plant; indeed, some came up quite a distance away. But, alas! it quite refused to bloom, and suddenly collapsed just when it was looking at its best. I have never been able to ascertain the cause, and as I was told that lime was its pet objection, I took special precaution to plant in soil which did not contain it. If any of your readers have been successful with this plant, I should be glad to hear of their experience.

ARTHUR R. GOODWIN.

The Elms, Kidderminster.

EMIGRATION TO CANADA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—You have been kind enough on more than one occasion to give publicity to letters from me relating to the inducements extended by the Dominion and Provincial Governments of Canada to persons who, from one cause or another, are contemplating emigration from the United Kingdom.

I venture to think that in no part of the world can settlers obtain greater advantages than in the Dominion of Canada. In Manitoba, the North-West Territories, and parts of Ontario free grants of 160 acres of land are to be had. In Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, and British Columbia, as well as in Manitoba and the North-West Territories, public lands can be purchased on nominal terms, and in every part of the country improved farms may be acquired at reasonable prices by those who are possessed of a little means.

The agricultural industry is in a flourishing condition. There is a large market locally for the produce that is raised, while the exports of the Dominion, particularly to Great Britain, of cattle, meats, grains of all kind, flour, butter, cheese, eggs, and fruit are increasing with great rapidity. It is not only in agriculture, however, that opportunities await the new settler. Canada has abundant wealth in her forests, mines, and fisheries, all of which can be more rapidly developed than at present with the advent of capital and more people, and the same remarks apply to the important manufacturing industry, which is expanding so satisfactorily. Both in agriculture and in the other directions mentioned there are excellent openings for men with money, and for labour of the classes in demand. It may be added that taxation is light, that the cost of living is relatively cheaper than in the United Kingdom, that the climate is healthy and attractive, and that a man with a family has unusual facilities for the education and starting in life of his children.

Canada has room for many millions more than her present population. The occupation of the immense areas of fertile land now awaiting cultivation means increased markets for British productions, which now receive a tariff preference of 33½ per cent. over similar merchandise from other countries. At the same time, it would provide additional sources of supply of the many food and other products which Canada can furnish in abundance, and which the United Kingdom is likely to continue to import in large quantities. It can readily be understood, therefore, that the question of immigration is regarded in the Dominion, and in the colonies generally, as of Imperial as well as of local importance.

The Canadian Government have appointed agents in different parts of the United Kingdom, from whom, as well as from my own department, full particulars about Canada may be obtained, either personally or by letter; and my principal object in once more drawing attention to the matter is to emphasise the importance to those contemplating emigration of procuring in advance the fullest and most reliable information available.

STRATHCONA.

*Offices of the High Commissioner for Canada,
17, Victoria Street, London, S.W.*

NYPHÆA STELLATA AND OTHER BLUE VARIETIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—A short time ago Mr. F. W. Burbidge asked for information about wintering blue Nymphæas, and thus far I have not seen an answer to his question, and wish to make a few remarks even at this late date. *N. stellata* and all blue Water Lilies, probably with the exception of *N. gigantea*, can be grown out of doors in England, and produce seed freely. My experience with the seeding of Nymphæas is all in favour of out of door culture. As to wintering, all blue and other tender Nymphæas can be wintered in a dormant state, but an erroneous impression prevails with many growers as to wintering and the conditions necessary.

Nymphæas are not all alike in the matter of tuber production. *N. Lotus* (Syncaurus section) and its varieties produce lateral growths, which in turn produce tubers toward the end of the season. These under proper conditions ripen up and can be kept dormant for several months, but the crown or central growth will inevitably rot if an attempt is made to dry it off.

Nymphæa stellata, *N. capensis*, and *N. Zanzibariensis* (Apocarpus section) produce no lateral growths, or very rarely, and to attempt to dry off a strong grown plant is certain death to it. The only way to winter such plants is to restrict leaf and root growth and keep the plant in water all winter; but this is not always necessary, as in some cases the plants can be wintered where they have been grown during the summer months. Large plants of this section cannot be wintered in a dormant state, save with the exception of *N. gracilis* and its hybrids, *N. Wm. Stone* (blue) and *N. Mrs. C. W. Ward*; but all tender Nymphæas can be wintered in a dormant or dry condition, including *N. pulcherrima*; it is necessary to select plants for this special purpose. In the case of new or rare varieties it is worth while to provide space for wintering in a semi-growing condition; but now that the blue varieties can be purchased at a moderate price it is cheaper to procure new tubers every season and let the old plants die, for in most instances the young plants from tubers will give the best results.

To secure tubers for wintering in a dry condition special treatment is required the preceding season, and plants must be grown specially for tuber production, which is entirely different from that followed to produce specimen plants and flowers. In a commercial establishment where thousands of tubers are requisite for shipment during the season, it would be impossible to winter as many plants in the condition as referred to by Mr. F. W. Burbidge (November 3, page 342). Most gardeners can grow whatever kinds of plants are required, either for decorations or for cut flowers, or for wintering or

propagation; this requires time, space, knowledge of species and varieties, practical experience, and common-sense. Experience will prove the best teacher.

Referring to the ever-blooming qualities of *Nymphæa pulcherrima*, I might say that the plant in question, referred to by Mr. Burbidge (November 3, page 342), is still in flower under the same conditions, the water in the tank being 60° at this season of the year. The plant is now in its sixth year of continuous growth and flower, showing no signs of weakness, and the flowers are only a trifle smaller than in summer.

Riverton, N.J., U.S.A.

W. TRICKER.

HYMENOCALLIS MACROPHYLLUM.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In addition to "T. W.'s" notice in a recent number of THE GARDEN about greenhouse plants flowering at the present time, when flowers are relatively scarce, *Chrysanthemum glorios* being over and bulbs only coming slowly forward, I would like to add one that seems to me worthy of notice, and is certainly of easy cultivation. I am writing of *Hymenocallis macrophyllum*, a plant belonging to the family of the Amaryllids, a fine specimen of which is before me now. From a round rosette of large, well-formed leaves, the fresh green and firm glossy look of which is in itself a pleasure, the strong tubular stem arises about 1½ feet in height, carrying an umbel of about four large white and most curiously shaped flowers. After these have fully developed they are succeeded by about as many others of smaller dimensions, so that the flowering period is extended over a considerable time. These blossoms are highly fragrant with a strong, vanilla-like perfume, reminding one of that of some varieties of tropical Orchids. I have found *Hymenocallis* (some species of which are hardy) illustrated and described in "Vilmorin's Garden Dictionary" (German edition), but not in any British botanical work I happen to possess, so that I conclude it may have another name which I am unacquainted with. As I have never yet seen it nor heard it spoken of I think it is but little known, and therefore venture to put forward this little note of recommendation, hoping it may prove of interest to some of our unknown gardening friends across the Channel.

Vienna.

Mrs. A. v. M. A.

PEACHES AND NECTARINES FOR POT CULTURE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have read with interest Mr. Iggulden's note on page 382, and would like to state my experience of most of the sorts that he has mentioned for pot culture. Peach Amsden June I have not tried, so cannot pass an opinion on it. Waterloo and Alexander as early forcing varieties are a failure, though Alexander grown in the second early or late house is very good. Early Louise and Early Beatrice, for early work, drop their buds badly, and are therefore better in a late house, though there are so many better varieties for a late house that these two can well be dispensed with. Early Rivers' is also given to bud dropping, and should be included with the two last named. Hale's Early succeeds well as a pot tree. Condor I have not tried. Grosse Mignonne is one of the best, never failing to finish a good crop of fruit. Dr. Hogg I am trying this season for early forcing; in a cool house it is hard to beat in colour and flavour. Crimson Galande, in my idea, has no equal as a pot tree, setting heavy crops, and finishing the fruit large, well coloured, and richly flavoured. Royal George runs it very close in every respect. Bellegarde I am trying this season for early work; it does well in the late house. Alexandra Noblesse with me is rather shy in bearing, but colours well, and the size and flavour quite make up for the deficiency in quantity. Goshawk is a splendid mid-season variety, with me always producing heavy crops, and, when well thinned, large fruit of a pale creamy colour, and of delicious flavour; no collection is complete

without it. Princess of Wales with me is rather shy bearing; the fruit is large, colour cream well flushed with red when well finished, and the flavour leaves nothing to be desired. Lady Palmerston is a reliable sort providing it is not over-cropped. Gladstone (which Mr. Iggulden does not mention) is a good late variety, producing heavy crops of large pale-coloured fruit of a rich flavour; of all the late Peaches I should choose Gladstone.

Of Nectarines, Early Rivers' always does well. Cardinal I have not tried. Précoce de Croncels I am well pleased with; it forces well, the fruit is large, the flavour good, and ripens several days before Early Rivers'. Advance is a nice fruit if well thinned. With me Goldoni is the most successful under pot culture; it forces well, crops heavily, and produces nice fruit of a splendid orange colour, and excellent flavour. Stanwick Elrue is a good reliable sort. Improved Downton forces well; good in every respect. Violette Hative also forces well, and produces fruit of good quality. Newton with me is a failure as a pot tree. Humboldt and Pine Apple both do well. Rivers' Orange is rather shy bearing, but its few large and richly-flavoured fruits cannot be dispensed with. I quite agree with Mr. Iggulden with respect to growing a large number of varieties. A dozen sorts of Peaches and half the number of Nectarines are ample, no matter how large the collection may be.

My selections for pot culture would be—Peaches: Hale's Early, Crimson Galande, Dr. Hogg, Royal George, Alexander, Grosse Mignonne, Bellegarde, Alexandra Noblesse, Goshawk, Gladstone, Princess of Wales, and Walburton Admirable. Nectarines: Early Rivers', Précoce de Croncels, Rivers' Orange, Goldoni, Humboldt, and Pine Apple.

M. TAYLOR.

The Gardens, Penbedw, Nannerch, North Wales.

PRONUNCIATION OF PLANT NAMES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Allow me to point out that the lines of your "Colney Hatch" correspondent, published in your issue of December 22, shows that he himself has something to learn. *Gladiolus* cannot be rhymed with *Euryalus*, because it has in scansion four short syllables, and should be pronounced Glad-i-o-lus, accenting the first syllable. Some thirty years ago two disputants referred this point to a famous classic, now upon the episcopal bench, one contending that the second syllable was long, the other that the third was. The referee held them both to be wrong, and referred them to a Latin dictionary. The word, it is almost needless to add, means a short sword. Similarly *Ricinus* cannot be rhymed with "vice in us," because all these syllables are short. Your correspondent might have substituted "bliss in us." His mental faculties, however, were most astray when he wrote his last two lines, for it is impossible to ascertain the scansion of "edulis" from the words "more or less." In these words most people throw the accent on the first and third; in "edulis" the second syllable is long.

A. G. G.

[The question of pronunciation of plant names must always be more or less a vexed one, because it cannot be decided by one set of rules alone. Our correspondent "from Colney Hatch," as a graduate of Cambridge and a careful student of botanical etymology, we may trust to be not far out. He cannot answer for himself as he is now in a distant colony, but we know his views on a part of the question at least, and cordially agree with them. They affect such cases of pronunciation as that of *Gladiolus*. This is one of those Latin plant names that has come into common use and now stands as the English name of a well-known family of plants. The plant already has an English name—it has even two—and both are good and appropriate: *Sword Lily* and *Corn-flag*. But no one says *Corn-flag*; everyone says—however they may pronounce it—*Gladiolus*. So, though the word is purely Latin, it is accepted as English, and with its acceptance it has received an equally generally accepted convenient English pronunciation. It is perhaps more correct to put the accent



MULBERRY TREE; ITS LEAVES SHED WITH THE FIRST FROST.

on the first syllable, with a long "a," but a sufficiently long custom has established the word in our English mouths with the accent on the second.

Inscrutable are the laws that govern the growth of language, but convenience and custom are as potent factors as purity of construction. The same thing has happened in the case of other plant names. In *Anemone* we put the accent on the second syllable, though we know that it ought to be on the third, and *Anemone* is now good English. Equally in the case of *Hypericum* we accent the second syllable, whereas the accent properly belongs to the penultimate. In both these names the right pronunciation would sound slightly pedantic, and custom allows us to use a pronunciation more convenient to our English tongues. The tendency in English is always to throw the accent back. In these cases, and in such another as *Aristolochia*, a name originally Greek but accepted by our masters in its Latinised form, we put the accent on the second "o" rather than on the second "i," with the happy consciousness that though we are magisterially wrong we are colloquially right, just as in our grammatical terminology we say indicative and infinitive, using the convenient English rather than the correct Latin quantities.

We have to steer a middle course between pedantry on the one hand and slip-slop on the other. We think that the unwritten law of custom, when established for many years, should be generally accepted, just as we accept it in our conventional renderings of *Fuchsia* and *Eschscholtzia*. We all say *Fewsha* and *Eskoltcha* with quite an easy conscience, although we hold that good German is quite as worthy of respect as indifferent Latin.

In the case of botanical plant names that are coming into use, but that are not yet quite familiar, by all means let us adhere to the original right pronunciation and endeavour to restrain debasement or alteration.

Another question on the subject of plant names, though not connected with pronunciation, often comes before us. It is the acceptance of names that are in themselves incorrect, but that have come by use to stand as the popular names of certain plants. We think the rule should be to accept the name when there can be no doubt what is meant by it. A word or a name is good when

it brings to mind at once the object indicated. Thus, when anyone describes a parterre as bedded with *Geraniums* we do not think of *Cranesbills*, but know that he means *Pelargoniums*. If he speaks of a sunny bank gorgeous with *Nasturtiums* we do not think of *Water-cresses*, or if of the white blossom and strong heavy scent of *Syringa*, we know he means *Mock Orange* and not *Lilac*. People commonly say *Bulrush* when they mean our brown furry-headed friend the *Giant Reed-mace* (*Typha*), whereas the name *Bulrush* properly belongs to the waving rush that bottoms chairs (*Scirpus*).

In these and perhaps other such examples it seems to us right to accept the word that has grown into use. We may have come to wrong conclusions, and by no means venture to lay down the law, or to close our pages to further helpful discussion, but we think that the various considerations we have touched upon should be allowed to influence the judgment of those who may like to give us their views on the subject.—EDS.]

THE MULBERRY AND ITS LEAVES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I often admire the wise tree (*Mulberry*), and put off exposing delicate plants until its leaves are out, for then one can be certain no more frosts will happen. I also admire the way its leaves all fall the first frost, until which event they remain on, though other trees may have shed theirs.

Hayes, Kent.

E. H.

NOTES FROM CALIFORNIA.

It is the custom in more than one region of the world to speak of the current weather as unusual or phenomenal; but the weather records for many years past will bear me out when I state that the last few seasons in California have been exceptional.

The winter of 1899 and 1900 brought abundant rains to Northern California, but the long drought in the southern part of the State was not broken until last autumn. Only one of the most perfect systems of irrigation in the world saved the fruit growers of that great region from disaster,

while those portions which could not be watered suffered greatly.

Rains came in early October throughout California, and were followed by liberal wellings at favourable intervals. The south was drenched. The temperature up to the last days of 1900 ruled high. Aided by this and heavy fogs, which hung over the great valleys of Northern California almost continuously between storms, the frosts were kept off and all vegetation given a wonderful impetus.

At Christmas the hills and valleys were heavily clothed with new grass, as high as it often is in May. The leaves hung on all deciduous trees and shrubs until long after the usual time, and in many instances new growth started. In November Apple and Cherry trees here and there were in full flower, and at one place Cherries were formed in December. In two warm belts the Oaks put out new leaves. All over Santa Rosa Bridal Wreath (*Spiræas*) could be seen with the coloured autumn leaves on shoots on which were flowers and new growth, and some Lilacs were in bloom. The flower gardens were a strange medley of summer, autumn, winter, and spring. Beds of *Caladiums* and *Cannas*, *Salvia splendens*, and the tenderest *Fuchsias* and *Geraniums* were in proximity to *Cosmos*, *Chrysanthemums*, *Dahlias*, and *Roses*; *Roman Hyacinths* and the various *Polyanthus* *Narcissi* were in flower in November and waning at Christmastide. If one were to judge by a floral almanac they would be puzzled to tell what season it was.

For weeks *Callas* have been flowering freely out of doors, and *Dodecatheons* were in bloom on the hills. For three months a field near my home has been orange with *Eschscholtzias*. The change came with the last days of the year. We have had several sharp frosts, with a temperature of 24° Fahr. The cold weather was welcome to all interested in agriculture and horticulture. The continuance of such warm weather would certainly have brought fruit trees into flower so early as to expose them to spring frosts, while grain growers felt the need of weather which would give more hardness and vitality to their grain crops.

The outlook in California is exceptionally favourable. There has been not only an abundance of rain but so much working weather that a large area has been seeded and is now well established. There is abundant moisture in the ground for fruit trees, and the crop will now depend on the absence of killing frosts in the spring. Losses of this sort are being lessened yearly by the growers co-operating in closely watching the temperature at the critical time and uniting in creating a dense veil of smoke by the use of burning straw, tar, &c., whenever the temperature approaches to danger point. For several years there was a lull in fruit tree planting, but this season will see quite an acreage added.

Co-operation among fruit growers in curing and marketing their products is receiving much attention, and several great combinations have been formed by the producers on the same lines as the industrial trusts. The Raisin combine controls the market for Californian Raisins. The last and greatest is the Prune combination, which controls four-fifths of the Californian Prune crop, and includes not only the growers but the corporations engaged in curing and packing the Prunes. By the articles of incorporation of this great fruit trust the growers pledge themselves to place their entire crop in the warehouses of the trust. There they are graded according to size and quality, and put up in uniform packages. As the Prunes are sold by the association, each grower receives a dividend in the proportion that his crop bears to the total.

From the growers' standpoint the advantages are many, and it is probable that the uniformity of the product and the greater facilities of so great an aggregation of capital for reaching new markets will increase the consumption. Other fruit growers are taking measures to follow the Prune and Raisin men, and it now seems likely that in a few years each of the fruit interests will be handled by a trust.

CARL PURDY.

Santa Rosa, California, January 2.

THE ROSE GARDEN.

SOME NEW ROSES OF 1900

IN obedience to the request of our highly-esteemed Editor, I last year contributed to the "Year-Book" a few notes on the new Roses of 1899. And now he asks me to do the same again! I cannot think why. Surely, it is the turn of someone else! I can lay no claim to superior knowledge of new Roses. I have in the past praised new Roses that turned out failures, and this year whenever I have staged new Roses a back seat has been my lot. Doubtless the victors in the new Rose class will read this article, and so let me tell them that in my opinion they are the fit and proper persons to deal with the subject. Nevertheless, although I have a poor tale to tell, it shall be told.

"Some New Roses of 1900." The season commenced well. There were several of fair promise at the Temple show, but my note-book bears testimony to the fact that good new Roses of 1900 are scarce, no gold medal Roses having been sent out this year, so far as my memory serves. Another thing to be borne in mind is this: only new Roses of the exhibition section are provided for in the exhibition schedules, and the new Roses of 1900 are principally decorative ones. Until we have a class for new Roses in the decorative section of the National Rose Society's schedules, they can never be brought collectively before the public in the way that is done with the new exhibition varieties. From the published lists of new Roses it is quite clear that the Hybrid Perpetual—the backbone of the exhibition section—has had its day. For instance, two new catalogues are before me—the one an English and the other a French. In the former is given "a selection of new Roses of 1899 and 1900." The list contains forty-eight varieties, of which only three are Hybrid Perpetuals. The French catalogue contains a list of ninety-eight new Roses of 1900, only nine of which are Hybrid Perpetuals! No wonder that the stands of new Roses have this year been weak and uninteresting. Were it not for Messrs. A. Dickson and Sons there would be no new exhibition Roses worth looking at. As regards the following list, I hope your readers will clearly understand that it is by no means exhaustive or that it contains the best. I do not pretend to do more than offer a few remarks on those new Roses that have come under my notice.

Reine Christina d'Espagne. Tea. (Schwartz.) This is a promising Rose; blooms small; colour, brilliant red; suitable, if hardy, for the decorative class. A plant in bloom was exhibited by Mr. Frank Cant at the Temple show. I have not seen it since.

Queen of Sweden. Tea. (Paul and Son.) Exhibited at the Temple show. A seedling from Innocent Pirola, crossed with Anna Ollivier; colour deep fawn, after the shade of Cleopatra. It appeared to be a good variety for exhibition purposes. (I am not quite sure whether this Rose has been sent out; if not, it cannot be classed as one of 1900. At any rate, it is a good Rose, and I shall let this note stand.)

J. B. M. Camm. Hybrid Bourbon. (Paul and Son.) A handsome Pæony-like pink Rose—large, globular; growth vigorous. It was exhibited by this firm at the Temple show both on plants and in vases.

The following is the raiser's description:—"Growth very vigorous, with bold, massive foliage; blooms are of first-class size, circular and high-pointed; colour, palest possible opaque salmon-pink; very double; equally desirable for garden and exhibition purposes."

Corallina. Tea. (W. Paul and Son.) A red decorative, free-flowering Tea, blooming in clusters; will probably be very useful in the decorative section. It is said to be an improved Papa Gontier. Has been charmingly exhibited at several exhibitions this year, notably at Manchester. The raiser's description is as follows:—"Flowers deep rosy crimson, large petals; specially beautiful in the bud state. This is a strong-growing variety, which, combined with its free-blooming qualities, renders it one of the most charming crimson Roses in cultivation for massing and cutting; a splendid autumnal bloomer."

Leonie Lamesch. Polyantha. (P. Lambert.) This appears to be a charming decorative Rose, quite distinct from others of the same class. Attractive because of its bright colour. The raiser says:—"Growth erect and vigorous; the blooms are of medium size, full, produced singly; colour, bright copper-red, with golden centre."

Lady Clamorris. Hybrid Tea. (A. Dickson and Sons.) This Rose has been well exhibited by the raisers at several shows during the past year or two, and is doubtless known to most exhibitors. It promises to be a useful Rose in the exhibition section. It is one of those pale, flesh-coloured Hybrid Teas of which there are now so many. The raiser says it "is a perfectly distinct and splendid Rose, of very robust growth and free-branching habit, flowering freely and continuously throughout the season. The blooms are very large and of good form, petals large, smooth, and of great substance; colour, creamy white, with delicate salmon centre, edge of petals margined with pink; sweetly perfumed."

Lady Mary Corry. Tea. (A. Dickson and Sons.) A beautiful yellow Tea of the Mme. Hoste shade, but quite distinct. I have seen this variety staged on several occasions, and, from what little I

know of it, it will probably prove to be the best of this year's introductions. The colour is all in its favour, and if only the size is maintained it will be most useful among the exhibition Teas. It is described by Messrs. Dickson as follows:—"This is a lovely and distinct variety; the growth is vigorous and of erect, branching habit; the blooms are of good size, very freely produced, and most perfectly formed; colour, deep golden-yellow."

Messrs. A. Dickson and Sons have also sent out this year three of the best of those single Hybrid Teas which made their first appearance in public at the Crystal Palace some three years ago. To the growers of decorative Roses they were most attractive as staged. Certainly they were a distinct novelty, but were they hardy, were they sufficiently free-flowering to admit of being staged in those huge market bunches which were then, and even now in some cases are, the fashion? Well we know from experience that some Irish Roses, doing well at home, do not take kindly to the English climate. It now remains for us to prove these single Roses, and I hope we shall see them next year in a class for new Roses in the decorative section at the National Rose Society's exhibitions. I append the names and description of these three charming single Hybrid Teas:—

Irish Beauty. "Colour pure white, with distinct and prominent bright golden anthers, which contrast perfectly with the colour of the petals. Flowers very large, often measuring 5 inches across; borne in clusters, very free-flowering, and deliciously fragrant. Unquestionably the finest single Rose yet raised."

Irish Glory. "A most striking flower of immense size, produced in large clusters; . . . silvery pink . . . sweetly and strongly perfumed, and a splendid grower."

Irish Modesty. "A very beautiful variety; colour, an exquisite delicate coral-pink; suffused from base of petals with ecru. . . . The blooms are large, and very plentifully produced; growth vigorous."—The Rev. JOSEPH PEMBERTON, in "The Rosarian's Year-Book."



DOUBLE-FLOWERED SLOE (PRUNUS SPINOSA FL.-PL.) AT KEW.

SCABIOSA CAUCASICA AND VARIETIES.

THESE beautiful plants deserve to have a prominent place in our gardens, owing to their abundant flowering until late December, even after the thermometer registers 6° to 8°. There is hardly another kind of hardy perennial which would make a better show, either in colour or appearance. They are most favourably seen when planted together in groups. Their native country is the Caucasus, as the specific name implies, and they are by no means new. One reason why they have not been in much favour is that their cultivation had been rather neglected. The most common variety is of a pale blue colour, with drooping flower heads, the stems being from 1 foot to 2 feet in height. It is mainly owing to the firm of Köhler & Rudel, in Windischleuba, Germany, intercrossing the above stated varieties that they have been able to produce such as *Scabiosa caucasica perfecta* and *S. c. fimbriata*. In *S. c. perfecta* we have a distinct improvement in stem as well as in the size of the flower. The variety is of rather robust habit, and may be had in various colours, viz., lilac, azure blue, and dark violet. *Scabiosa caucasica* is an off-spring of *S. c. perfecta*, with pretty toothed flower leaves. There is also a White *Scabiosa*, which, however, has not yet reached the state of perfection. The culture is very simple; they succeed in almost any kind of soil. Seed should be sown in March or April, and if the weather is favourable plants might be had in bloom the first year. The better and surer method of keeping the colours is to divide old roots. I am quite confident that every horticulturist will find the culture of *Scabiosa* very interesting and profitable.

PAUL GUNTHER.

Windischleuba, Altenburg, Germany.

TREES AND SHRUBS.

FLOWERING SHRUBS OF EARLY SPRING.

WHAT a strange chance it is that one of the earliest of our flowering shrubs, namely, the February-blooming *Chimonanthus fragrans*, should produce the sweetest-smelling flowers (the large *Magnolia grandiflora* only excepted) of any hardy shrub or tree of all the year. But so it is, and the fragrant little blooms of modest colouring are truly welcome as the heralds of the coming host of spring-flowering shrubs.

Probably the next to bloom will be *Andromeda floribunda*, a neat, dark-leaved peat shrub crowded with white flower-spikes. It has the strange habit of forming the flower-bud in August; by September it looks so forward that one thinks it must be just about to burst into bloom, but so it remains till it actually flowers towards the end of March. *Daphne Mezereum* is in bloom at about the same time, a plant beloved of cottage folk and very sweet of scent. It does best in a strong loam, when its close, strong growth and wealth of pink bloom in earliest spring, and its crowd of scarlet berries later in the year, give it a double season of beauty and garden value.

The Forsythias soon follow; *viridissima* as a shapely upright bush, *suspensa* as a thing of bold and free growth, whose long flower-laden branches have a special charm so early in the year. For those who cannot make up their minds whether they prefer the compact *Forsythia viridissima* or the loosely-shaped *F. suspensa*, there is a hybrid form coming between the two, named *F. intermedia*. It is well to group with the Forsythias the pretty *Spiræa Thunbergi*. They flower at the same time and mingle charmingly. The double-flowered *Spiræa prunifolia* follows closely, the long sprays, that in autumn will be almost scarlet of leaf, being thickly set with a close array of the little blooms like small double Daisies.

The deciduous *Magnolias* are among the most important of the spring-blooming shrubs. Against a wall the large white flowers of *M. conspicua* are grand objects in March, but it is well to keep some

protecting material at hand, for March is often cruel, and after hot sun in daytime, 8° or 10° of frost at night will deface the lovely blooms with patches of brown decay. In April, even in the open shrubbery, *M. stellata*, best of early-blooming bushes, stands smothered with its myriads of starry blossoms of purest white before the leaves are formed, soon to be followed by *M. soulangeana*, a bush of more important growth and large flower, whose outside is tinged with red-purple.

April and May are the months of Apple blossom, and not of Apple blossom alone, but of the greater number of the beautiful flowering shrubs that are closely related to those many fruit trees—indeed, nearly all the fruit trees we have—that are members of the great Rose tribe.

Earliest of all, the Almond shows its tender pink bloom against the hard deep blue of the skies of spring, and with it come the many varieties of the Japanese Quince (*Pyrus japonica*) in varied colourings, from purest white through faint pink to a full rosy scarlet; these colourings passing onward to the splendid deep red of Waterer's Knaphill Scarlet, a variety of the highest merit. We have reason to be thankful

to some of our best nurserymen for their work in producing these capital varieties, though no doubt much may yet be done. The smaller but still more abundantly-flowered *Pyrus Maulei* is also yielding beautiful varieties, while its splendid masses of orange-coloured fruit give it a second season of conspicuous beauty.

The Blackthorn (*Prunus spinosa*) of our hedges is a delightful shrub, and only needs the added beauty of the double bloom to be one of the best of garden ornaments, as is clearly shown in the illustration. Lovely are the double Cherries and the double-flowered Plums, both white and rose-coloured, and they are delightful not only as dainty bushes in the garden, but also as some of the best of shrubs for slight forcing or growing in the cool greenhouse. This same thing may be said for the double Peaches, of which there are now several varieties of great merit. How seldom is *Prunus triloba* to be seen in a garden, and yet it is one of the very best of early-flowering shrubs. It enjoys a place against a wall, where year after year it becomes loaded with its pretty pink bloom. Some of the earliest of the shrubby *Spiræas*, such as *S. Thunbergi* and the double-flowered *S. prunifolia*, are also well worthy of a place against a wall, for our summers are not quite long and hot enough to ripen the tips of the year's shoots when the bush stands in the open, so that the arching spray of bloom is cut short a little way from its end, and instead of finishing with bloom and bud to the very point, there is generally a sudden stop and a bit of dead stick beyond.

One of the best known of the flowering shrubs of this class is the Japanese *Pyrus Malus floribunda*, now in several varieties, and none is better worth a place, either at the extreme edge of a shrub clump or in some quiet detached spot upon grass. Its half-weeping habit is singularly graceful, and a well-grown specimen will cover a large space, the branches bending over mainly to the ground. If the space below it is wanted, as may often happen



TETRAMICRA BICOLOR IN EDINBURGH BOTANIC GARDEN.

in a small garden, by gradually removing the lower branches it can be made to take a small tree form, which acquires a high degree of pictorial value as it advances in age, while the head can also be shaped at will by shortening the ends of the branches. Two others of the rosaceous flowering shrubs or small trees should not be overlooked, namely, the snowy *Mespilus* (*Amelanchier*) and the bird Cherry (*Prunus Padus*), beautiful either in shrubbery or thin woodland.

Daphne pontica, flowering in May, would be well worth planting if it were for its fragrance only; but besides this delightful quality the quantity of greenish-tinted yellow bloom and bright yellowish green foliage and compact bushy habit make it one of the brightest and best of small shrubs, and especially suitable for upper portions and frontiers of bold rockery. In May also we have the earlier of the Brooms, the wild yellow, that for its early bloom should not be denied a place on the outskirts of the garden, and its partly crimson variety *Cytisus andreas*, also *C. præcox*, of tenderest buttery-yellow colour, forerunner of the rather later white Broom of Portugal (*C. albus*) and the still later Spanish that blooms in late summer. G.

ORCHIDS.

TETRAMICRAS.

THESE are among the prettiest of small-flowered Orchids of dwarf habit. *Cattleya*, *Lælia*, *Oncidium*, *Odontoglossum*, and other "show" genera have miniature representatives, but the flowers of *Tetramicras* are all small. At the same time they are long lasting, and also beautiful when well grown.

Three species have flowered in the Royal Botanic Garden, Edinburgh. Noticing the tiniest, first mention must be made of *Tetramiera* (or *Leptotes* as it is sometimes called) *nana*, a veritable fairy plant, whose pink-white blossoms are easily covered by a thimble. It is not an Orchid that delights one with impressive rapid growths and then displays a few wretched little flowers for the trouble bestowed upon it. *T. nana* is a well-proportioned plant; its fleshy terete leaves suit the liliput flowers. During late autumn a small piece of this species produces five or six blossoms over a mossy lawn the boundaries of which are a 2½ inch pot.

Another species entirely different and less interesting is *T. montana*. This dispenses with the succulent character common to most of these plants, as the stems and leaves are tough and dry; the terminal flowers are white.

T. bicolor flowers well every year in the warm Orchid house, where it enjoys plenty of water and a position near the glass. It is a native of Brazil. The photograph of this beautiful Orchid is half natural size, and was taken during March last. The sepals and petals are white, the lip crimson.

Edinburgh. D. S. FISH.

A LAVENDER HEDGE.

It is by no means in every garden that one sees a hedge of Lavender, and yet it is one of the very simplest and easiest things to grow and one of the most delightful. Not only is the harvest of its sweet blossom pleasant in many ways both on the bush and off, but Lavender is also beautiful in its grey winter dress. It is not a long lived shrub—that is to say, it is not long lived in a state of blooming vigour, for after its fourth year the flowers become smaller and the bush tumbles about rather out of shape. It is a good plan to have three hedges of different ages about a garden so that there will always be one in its fresh young vigour. It is easily raised from cuttings under a handlight.

AN ARTIST'S NOTE-BOOK.

SINGLE CHRYSANTHEMUMS.

A FEW years ago the single Chrysanthemum was regarded as unworthy of cultivation, but what a marked contrast at the present day, for these are now looked upon by many as the most useful section for decoration, for beautifying the conservatory, and especially for use as cut flowers. When well grown and suitable varieties are selected, they are unquestionably well adapted for this purpose.

The newer introductions in many cases are certainly a great improvement on the older ones, not only in habit of growth, but also in the form of the flower and the bright and pleasing shades of colour. At many of our

large exhibitions substantial prizes are now offered for these in a cut state, and when well represented and arranged, as I was pleased to note they have been during the past two or three seasons, they form a pleasing feature. These should always be shown in suitable vases, and not crowded on boards as is sometimes the case. A single Chrysanthemum should have one row of florets only or the true form of the bloom is destroyed, and the centre should be well formed and of a distinct and telling shade of colour. There are a great

sandy compost and the pots well drained. Like all other Chrysanthemums, the plants should receive no severe check at any period after once a start has been made till the time of flowering; consequently, repotting should be carried out as soon as the pots become filled with roots. At no season must the plants suffer for want of moisture at the roots. Three pottings will suffice, viz., from the cutting pots to large 3-inch, following on to 6-inch, and finally the stronger ones into 9½-inch, and those of weaker growth into 8½-inch sizes.

In each case the compost should be as advised for other sections, of which good fibrous loam should form the staple. They should be stopped twice, or even three times during the summer, and if wanted for very late use certainly three times. After the flowering pots are well filled with roots copious supplies of diluted liquid farm-yard manure should be given, with an occasional dose of Clay's or some other reliable artificial manure.

Thoroughly syringe the foliage during the afternoon on hot days, and dust the under parts of the leaves with flowers of sulphur. Except for staking and tying little other attention is needed until the buds make their appearance, when they will require to be judiciously disbudded, as too many buds will prevent the blooms expanding properly, and, on the other hand, it must not be done too severely. Many of the varieties lend themselves admirably for midwinter decoration. We had several plants in full beauty on Christmas Day last. For the guidance of those that are not well acquainted with the varieties I append a list of those which I know to be distinct and worthy of cultivation.

Daisy, pure white with yellow centre; Dorothy, long petals, colour a delicate blush, yellow centre; Virgin Queen, pure white (see illustration); Elsie Neville, a large beautiful form, long petals, terra-cotta red; Florrie, a pleasing shade of cerise-pink; Jessie T. Angus, perfect form, clear rosy cerise; Mr. C. Watney, clear bright red; Victoria, lovely shade of primrose, long drooping florets; Admiral Sir T. Symonds, rich yellow; Annie Heard, pure white, yellow disc; Charming, bright golden yellow; Dolly Varden, rose-pink; Earlswood Beauty, primrose; Framfield Beauty, rich crimson; George Rose, carmine; Golden Fleece, yellow; Harold Stallard, terra-cotta; Kate Williams, very good rich yellow; Lady Churchill, terra-cotta; Mary Anderson, white tinged rose; Miss Rose, white suffused pink; Mrs. A. E. Stubbs, clear white; Mrs. D. B. Crane, cerise-pink; Mrs. Langtry, rose; Rev. W. G. Remfrey, deep crimson; Treasure, very bright yellow. E. BECKETT.



HEDGE OF LAVENDER AT ABBOTS RIPTON HALL, HUNTS.
(From a photograph sent by Mrs. H. Gilliat.)

number of varieties now to choose from, both belonging to the large and small flowering section, but for many purposes the smaller ones are most suitable, although some of the larger ones have much to recommend them. Their cultivation is quite simple, and they are very valuable to every gardener that has to maintain a long supply of cut flowers, either for the decoration of the dinner table or arranging about the rooms in large vases, when single flowers are preferred, as in many cases they are. The amateur that cares for these may easily produce them to perfection, and when once taken up will find their cultivation easy.

Any time after this date and for the next six weeks a beginning should be made. Either plants or cuttings can be purchased for a reasonable sum, including even the newer kinds, and where means can be found to propagate I should advise starting with the latter, as at this season little trouble should be experienced in rooting them if kept close for a few days. Cuttings may either be struck three round the outside of 3-inch pots or singly in 2½-inch, the latter for choice, using a light

good habit, clear bright red; Victoria, lovely shade of primrose, long drooping florets; Admiral Sir T. Symonds, rich yellow; Annie Heard, pure white, yellow disc; Charming, bright golden yellow; Dolly Varden, rose-pink; Earlswood Beauty, primrose; Framfield Beauty, rich crimson; George Rose, carmine; Golden Fleece, yellow; Harold Stallard, terra-cotta; Kate Williams, very good rich yellow; Lady Churchill, terra-cotta; Mary Anderson, white tinged rose; Miss Rose, white suffused pink; Mrs. A. E. Stubbs, clear white; Mrs. D. B. Crane, cerise-pink; Mrs. Langtry, rose; Rev. W. G. Remfrey, deep crimson; Treasure, very bright yellow. E. BECKETT.

SHORT STUDIES ON PLANT LIFE.—III.

THE WINTER ACONITE AND CHRISTMAS ROSE.

THE Winter Aconite (*Eranthis hyemalis*) is a native of the European and Asiatic mountains. Gerard says in 1597: "We have great quantities

of Winter Wolfe's-bane (*Aconitum hyemale*) in our London gardens."

When the seeds germinate they produce a long thread-like root. The tuber begins as a tiny globe apparently upon the root and not on the radicle. As this is anomalous, I shall be much obliged if anyone will send me a few seeds to test this point. The tuber continues to enlarge, and sends up its flowering stems every year with a whorl of leaves called the involucre. It has no true corolla, but a golden calyx instead, the petals being represented as "nectaries" for secreting honey, as is also the case in the Hellebores.

These show one method by which petals are made out of stamens. The first step is to arrest the formation of pollen and the partition wall between the two anther-cells. Thus, a hollow tube is formed opened above. The inner side is shorter than the outer, indicating the commencement of a petal which is completed in a Buttercup, in which the back of the anther has grown out of all proportion to the front, on which the minute "honey-gland" remains at the base. Lastly, in *Ranunculus cortusæfolius*, a large-flowered Buttercup of the Canaries, the gland has vanished, and the petal is honeyless. A similar change from anthers to nectaries occurs in the Hellebores.

Transitions from stamens to petals also occur in Water Lilies, but it is worked out in a different way, for while the filament plays no part in the preceding, only remaining as a little stalk,

Hellebores show how bracts may arise. Take, e.g., our fetid Hellebore. The leaf has a divided blade on a long petiole. The change from a true leaf below to a true bract above is seen in the petiole becoming shorter and broader, while the segments of the blade diminish till they vanish. The petiole, therefore, has turned into the small oval-pointed bract. If we compare this with a field Buttercup we shall see that the much-divided blade now remains as the bract, but reduced in size and number of segments, while the petiole is arrested, so that a bract can be "homologous" either with a petiole or a blade; and in some cases with a stipule, for botanists regard the little pair of bracts on the flower-stalk of the Pansy to be such. GEORGE HENSLOW.

INDOOR GARDEN.

CENTROPOGON LUCYANUS.

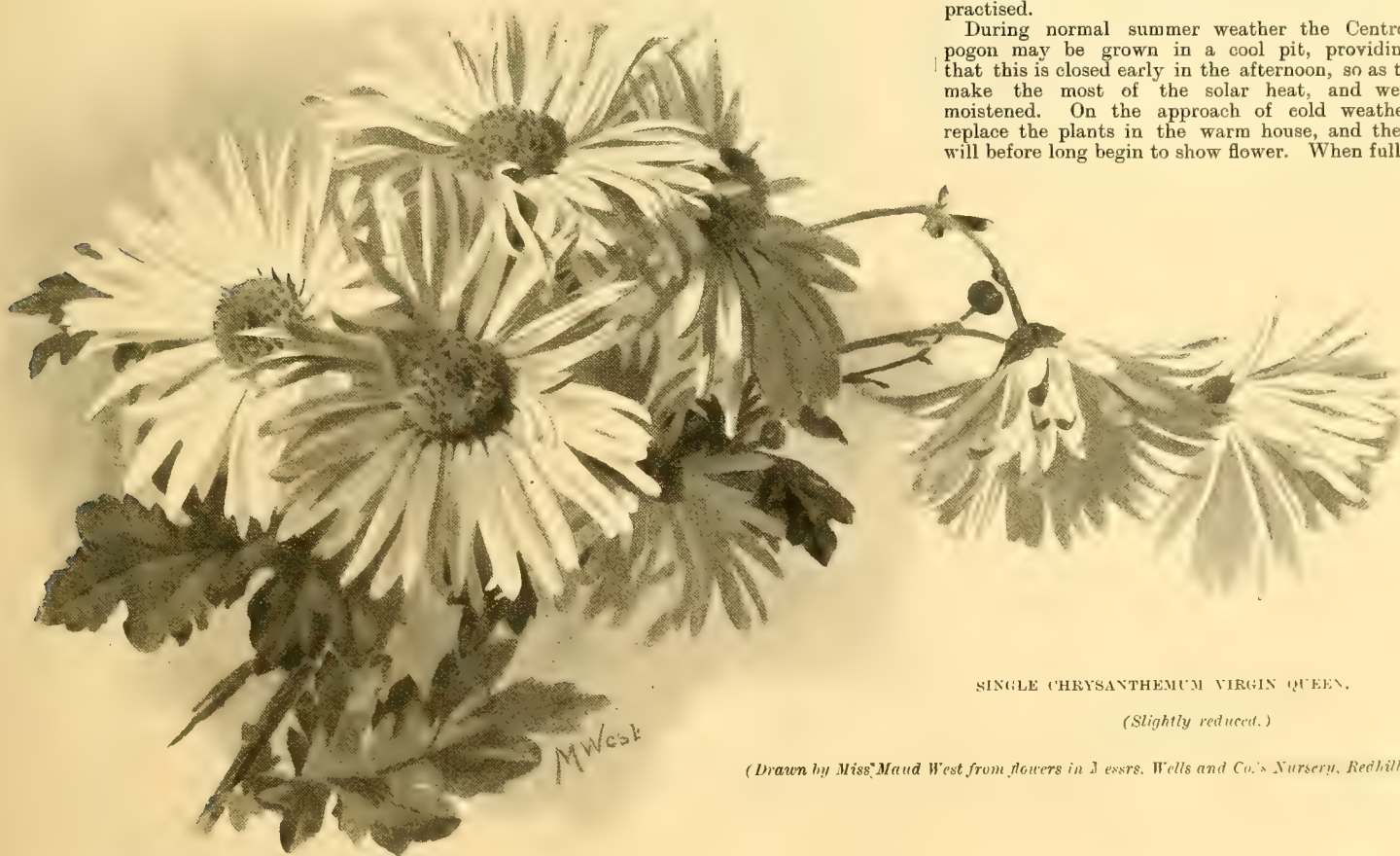
FOR those who are fond of winter flowering plants this *Centropogon*, which is a hybrid between *C. fastuosus* and *Siphocampylus betulifolius*, can be recommended as a most useful one of this class. Its flowers are produced over several months from November onwards. They are tubular, rosy carmine in colour, and freely borne on short spurs along the current year's growth. *C. Lucyanus* was raised so long ago as 1856 by a French gentleman, M. Desponds, of

if the tops of the old plants are cut off after flowering. They also root readily under the following treatment: Let the cuttings be 3 inches or 4 inches long, and, if possible, with a heel of the old wood attached, although this is not absolutely essential. Place then several in $4\frac{1}{2}$ -inch pots filled with a light sandy soil under a bell-glass or propagating frame in a warm house. Every morning the interior of this glass covering should be removed and wiped quite dry, otherwise the moisture that has collected will be very liable to cause the leaves of the cuttings to decay and probably will also saturate the soil. This may seem a small precaution, but it is a very necessary one.

When well rooted they should be placed singly in 3-inch pots and taken out of the propagating case. As they have somewhat tender roots a light friable soil is necessary, and it must not be made too firm. A mixture of equal proportions of rough fibrous loam, peat, and leaf-mould, with a fair addition of silver sand, is suitable. Ample drainage is also essential.

If the plantlets are kept near the glass their growth will be all the stronger and healthier. A moist atmosphere should be maintained, always on sunny days syringing the plants and well damping the floors, &c., when the house is closed in the afternoon. So soon as the small pots are well filled with roots repot their occupants into $4\frac{1}{2}$ -inch or 6-inch pots. Unless the plants are exceptionally vigorous I would prefer to make use of the former, and for this reason. As mentioned above, *Centropogon Lucyanus* is by no means strong rooting, and if it should happen that the 6-inch pots were not well filled with roots, an occurrence not at all unlikely, the soil would most probably soon become unwholesome if very careful watering were not practised.

During normal summer weather the *Centropogon* may be grown in a cool pit, providing that this is closed early in the afternoon, so as to make the most of the solar heat, and well moistened. On the approach of cold weather replace the plants in the warm house, and they will before long begin to show flower. When fully



SINGLE CHRYSANTHEMUM VIRGIN QUEEN.

(Slightly reduced.)

(Drawn by Miss Maud West from flowers in Messrs. Wells and Co.'s Nursery, Redhill.)

it, together with its extension or "connective" between the anther-cells, becomes the petal, the anthers disappearing from the margin.

The Christmas Rose (*Helleborus niger*) is also figured by Gerarde. It came from Austria. He describes it as bearing "Rose-fashioned flowers about Christmas."

Marseilles. Amateurs should not find the least difficulty in cultivating it, providing they are able to accommodate it in a warm house. By warm house I do not mean a stove, but simply one having an intermediate temperature, say, 60° at night.

Cuttings will be plentifully produced in February

in bloom remove to the conservatory, where they will prove bright and cheerful throughout the dull months. T. W.

TIBOUCHINA MACRANTHA.

I BELIEVE I am correct in giving the above as the latest name under which the plant referred to is

known: most of your readers will remember it and probably still call it *Pleroma macranthum*. *Lasiandra* is another synonym. My object, however, is to bring to the attention of those to whom it is not known this valuable greenhouse climbing plant. No one possessing a cool house should be without it. It blooms throughout the greater part of the year, even during winter. The large richly coloured blossoms of a deep violet-purple colour are very freely produced, although they do not remain fresh for so long a time as could be desired. On the roof of a light cool house it makes a brave show. It usually succeeds best when planted out, as indeed do nearly all climbers; when grown in a pot its growth is not so free and vigorous.

During the winter time less water is naturally required than in the summer, for growth is less active. It is very necessary to provide ample drainage for *Tibouchina macrantha*, as plenty of water is required in the growing season; the want of effective and sufficient drainage is often the cause of failure to successfully cultivate greenhouse climbing plants. The soil cannot obviously be examined and the crocks readjusted if necessary as with pot plants, so that it behoves one to attend to this important matter at planting time. The subject of this note may be increased by inserting cuttings in summer of wood that is partially ripened, placing them in sandy soil under a bell-glass in a warm house. T. W. F.

PROPAGATING BEGONIA GLOIRE DE LORRAINE.

I OFTEN hear of people failing to get sufficient cuttings of this beautiful plant. I think this may be caused by not cutting the old plants sufficiently well back. I have never experienced any difficulty in getting plenty of cuttings and to spare. As soon as the old plants have done flowering they are cut down to within 1 inch or 2 inches of the soil, put into a stove temperature, and kept constantly syringed. They soon throw up plenty of cuttings from below the surface of the soil. In propagating, three or four cuttings are put into a 3-inch pot and placed in the propagating pit or on a back shelf in the Melon house, where they never fail to root. They are also easily propagated from leaves. For this mode of propagation medium-sized leaves are selected and inserted thickly in a slanting position in pans. A good compost is peat, leaf-soil, and sand in equal proportions. They are given the same treatment as the cuttings. A batch of cuttings rooted in the month of June for flowering in 3-inch pots make charming little plants for dotting about a large dinner table. They are also well adapted for growing in small hanging baskets, and look very effective when hung round the conservatory alternately with *Asparagus Sprengeri*. H.

BOOKS.

Quick Fruit Culture.*—"In this volume is included the whole of 'Pruning and Training' in a revised form, but the form of the book has been recast, and there have been added directions on root culture, lists of the best and most useful varieties to grow, information on the subject of diseases and insects that attack fruit trees, and much general information. Fruit culture is a far simpler matter than many people imagine, and the attempt is made here to show what the quickest and easiest methods are, and how to carry them out with the least trouble and in the most successful manner." This is an extract from the author's introductory chapter, and serves well to give a general idea of the scope of this new book on fruit culture. Mr. Simpson is strongly opposed to the method of training fruit trees into artificial shapes, and the close pruning thereby necessitated. We are entirely in sympathy with the author in his remarks upon the evils which result from the careless and too severe use of the pruning-knife, but we think that his condemnation of such fancy-

shaped trees as the pendulous pyramid, chandelier pyramid, balloon, vase, &c., is somewhat superfluous, for to what extent are these now cultivated in Britain? The author further says: "One reason commonly given for the pyramid, columnar, &c., shapes is that they occupy less room, but as small trees bear a proportionately small quantity of fruit, and as the practice is to plant two or three trees in place of one large one, such a plea has no force." We venture, however, to think that the amateur gardener (for whom the book is chiefly designed) is not altogether sorry that he is able to obtain small trees, for very often he can plant one small one where a large one would be useless. These, however, are but small matters. There is much in Mr. Simpson's book that will repay careful reading. Chapters are given dealing with all hardy fruits grown in our gardens, as well as upon the Vine, Orange, Fig, Banana, &c. Root-pruning is treated separately, although, as the author points out, the "natural, or extension system," obviates this to a great extent. "Quick Fruit Culture" will be found both interesting and useful to gardeners.

Botany.†—This is one of the "Self-Educator Series," edited by John Adams, M.A., B.Sc., and the author is R. S. Wishart, M.A. It is intended



STANDARD ROSE LA FRANCE.

(Two years old.)

to guide and assist the isolated student in his work. Emphasis is laid on the necessity of the young botanist commencing his labours in the field with living specimens before proceeding to laboratory work. "The illustrations are simple diagrams and drawings of such objects as students may reasonably be expected to find for themselves." This is of great advantage to the student, for he naturally is more interested in things that he is able to examine himself, and therefore studies them more thoroughly. The chapter on plant life, manners, and morals is particularly instructive. Clear directions are given to enable the student to prove for himself the matters dealt with, such, for instance, as development of chlorophyll, formation of starch, localisation of starch, root pressure, respiration, &c. The second part of the book is devoted to the classification of plants. Fifty natural orders are described. We do not care for the manner (on page 185, diagram of *Parnassia palustris*) of indicating the various parts of the flower by means of dotted lines running into the latter, for a novice would find a difficulty in locating either the pistil, the stamens, or glands. The plan of a "classification tree" is given at the beginning of the book, but we doubt if its object

would not have been better served by tabulated lists. To all interested in the study of plant life we can certainly recommend Mr. Wishart's "Botany," for it is one of the most instructive and clearly written manuals on the subject we have recently seen.

Books and publications received.—"Strand Magazine," "Sunday Strand," and "Wide World Magazine," all for February; also "Gardens Old and New," price £2 2s., from Messrs. Newnes and Co., Southampton Street, Strand, London.

STANDARD ROSES.

A HEALTHY and shapely standard Rose of a free-flowering variety is an object of much beauty in the garden. The illustration is reproduced from a photograph of a two year old tree of *La France*, one of the best Roses to grow in standard form. Considerable discrimination and knowledge of Roses are necessary in order to obtain the best results from standard-grown specimens.

The stiff, somewhat moderate growing kinds, like Etienne Levet, Baroness Rothschild, and Merveille de Lyon, never make handsome standards, and it is through the too free use of such kinds that a certain amount of odium has become attached to this type. If these moderate growers are wanted they should be obtained on short briars. To my mind one standard well isolated is a perfect picture; a row, suitably placed, is also an attractive feature in the garden, but a bed of standards I do not admire.

For single specimens I should select the many splendid so-called climbing, Tea, and Noisette Roses, which naturally make a beautiful drooping head. For lines of standards the *La France* tribe are all good, so also are many of the Hybrid Teas like Camoens, Grüss an Teplitz, Marquise de Salisbury, Caroline Testout, &c. The exquisite Chinas, too, make beautiful objects as standards as they undoubtedly do as bushes. The free-growing Teas—Marie Van Houtte, Mme. Lambard, Anna Ollivier, Enchantress, Gustave Regis, &c.—make noble standards if good, healthy stocks are budded with them.

There is an idea that the briar should be thick and old. This is a mistake. Take the happy medium and one can obtain the greatest success. Given plenty of fibrous roots and a congenial, well-tilled soil, a three year old briar will make the most headway and ultimately develop into a splendid specimen if the head is kept free in the centre from small twiggy growths. When planting or replanting standard Roses it pays to give them a peck or so of good prepared compost, consisting of old pot soil, loam, charcoal, and a little bone-meal. It is also necessary to well drain the soil. Roses revel in good heavy clayey soil, but it must not be water-logged. Soil in which the Blackberry and Oak are luxuriant will grow Roses to perfection. PHILOMEL.

EDITORS' TABLE.

BERRIED SPRAYS OF *NANDINA DOMESTICA*.

We receive from Mr. John Church, from Pau (Basses-Pyrénées, France) some well-berried sprays of *Nandina domestica*, very beautiful in colouring both of leaf and berry, with the accompanying note: "In a paper upon the *Nandina* which appeared in THE GARDEN some time ago no mention was made of the berries. I should like to know if the shrub has ever to your knowledge flowered and borne berries in England or Ireland? I have a large number of these shrubs and they form a very attractive feature in my garden, being covered with bright scarlet berries from November to May. The foliage is also beautiful and varied in colour, some of the shrubs having green leaves, others bronze, while on some the foliage is bright crimson. The birds never touch the berries. The shrub was introduced into Pau about twenty years ago, and does remarkably well in this climate."

Canon Ellacombe, of Bitton Vicarage, near Bristol, also writes: "I consider *Nandina* one of

* "Quick Fruit Culture." By J. Simpson. Messrs. Pawson and Brailsford, High Street, Sheffield.

† "Botany." By R. S. Wishart, M.A. Messrs. Hodder and Stoughton, 27, Paternoster Row, London. Price 2s. 6d.

my most beautiful shrubs. It flowers regularly with me both against a wall and in the open, but it very seldom forms berries. I do not suppose I have had more than a dozen red ones ever since I have grown it, and I have not succeeded in rearing plants from the seeds; but cuttings strike without difficulty, only they take their time."

CRIMSON PRIMROSE FLOWERS.

Mr. P. D. Williams sends from Cornwall a charming bunch of a large crimson Primrose, both flowers and leaves of that strong full growth that is not generally seen till April.

IRIS BAKERIANA FROM WINCHMORE HILL.

Mr. Perry sends from his hardy plant farm, at Winchmore Hill, London, flowers of this delightful Iris, which the sender remarks is "without doubt the finest of the *I. reticulata* section, and one of the first to open. Owing to the mild weather a great many bulbs are showing flower." The colouring of *I. bakeriana* is a strong purple, with beautifully marked falls and delicious violet-like perfume.

THE SEA BUCKTHORN.

Mr. John Matheson, Addington, Winslow, Bucks, sends a boxful of twigs of the beautiful native Sea Buckthorn (*Hippophae rhamnoides*), "to show how well it fruits in this part of the country. We have a few big bushes of it covered like the bits sent." This shrub is worth massing by pond or lake side for the sake of its rich abundance of orange berries.

THE FERN GARDEN.

BRITISH FERNS.—SELECTIONS AND DESCRIPTIONS.

IT is really astonishing how few people even amongst plant lovers are aware that in our British Ferns and their varieties we have something absolutely unique in the world and unparalleled anywhere outside our little group of islands, despite the fact that elsewhere in many places Ferns are far more abundant and species far and away more numerous. No collection can be made of any other class of plants without some aid from outside; either the plants themselves are originally exotic or the varieties are due to culture abroad as well as here, but with our British Ferns not only have we many hundreds of lovely and diverse forms, every one of which is of home origin, either as a wild find or derived therefrom in this country, but in no other part of the world has a tithe of such diversity been found to exist, even in those places which are infinitely better endowed with raw material than we are. Whether this singular fact is due to a greater capacity for sporting in our native species owing to climatic or other conditions, or whether it is due to the fact that here alone we have had a persistent coterie of Fern hunters engaged for half a century in this peculiar cult, we cannot with certainty say, but, from some little experience abroad, we incline to the latter belief. Anyway, the fact remains that we have such a wealth of beautiful native Ferns at our disposal, and that, on the principle perhaps that a prophet has no honour in his own country, we practically ignore the gift it constitutes at the hand of beneficent



MR. C. T. DRUERY'S HARDY FERNERY.

Nature. The most peculiar feature perhaps is that a love for Ferns is so general that thousands upon thousands of gardens display these self-same species in their shady corners, but almost invariably in their common forms, while the far more beautiful varieties are, as we have said, ignored. In cool or cold conservatories we also find specimens to which the same remark applies, yet we venture to think that a glance at our frontispiece, which represents by the unflattering aid of photography a conservatory devoted entirely to the Ferns we are championing (with the single exception of a chance exotic in the background, *Woodwardia radicans*), should suffice to convince anyone that they are worthy to rank amongst the very *élite* of decorative foliage plants. Then, too, they are essentially fitted to be the pets of all classes; their perfectly hardy nature precludes the necessity of any heating in the winter; they do not rank as expensive plants to procure; and, finally, with a little attention to their needs they are practically everlasting. Their diversity of size as well as form fits them, too, for all grades of accommodation. Given ample space, examples of the grandest may be grown, eclipsing the finest exotics in delicacy of cutting or eccentricity of design, while on the other hand, if space be limited, 100 dwarfs can be accommodated within a few square yards. In the Midlands, where the British varieties are mainly appreciated, in many a window we may see lovely specimens of frilled or tasselled Hart's-tongues and crested forms of other species to which none of the elsewhere popular window plants can possibly be advantageously compared. We ourselves, in the early days of our enthusiasm, devoted a north basement window to a small collection, which evidently constituted a source of wonderment to the passers-by, and eventually quite converted a local nurseryman to the cult. Since that time, by the efforts of the late Colonel A. M. Jones, E. J. Lowe, and Mr. Carbonell, Kew has been enriched with a grand representative collection of

varieties more than a decade since, and yet we may walk all London through, and for the matter of that, all Britain through as well, and, save in the Midlands, hardly find a sign of their existence. We yield to no one an admiration of the lovely exotic Ferns which have been introduced, but we submit that it is a ridiculous state of things that a charming thing found abroad is eagerly snatched up by the trade, while an equally fine thing found in our native Fern haunts is absolutely ignored, except by the coterie of enthusiasts. Half a century ago, in the fifties, the merit of our British Ferns found popular acknowledgment, and for a time there was a "craze;" unfortunately, however, the trade, as is evidenced clearly by contemporary catalogues, put a great lot of rubbish on the markets, *i.e.*, irregular and unsymmetrical curiosities, their very defects enhancing their prices in many cases. The result inevitably was a revulsion of taste, from which, from that day to this, the Ferns have suffered. Since then, however, the types have been more and more refined. The abundance of good things found led to stricter and stricter selections, until at last we are able to put forward a list compiled on proper lines in full confidence that no one who starts a collection using it as his or her guide, will eventually regret the trouble taken or will feel anything but gratitude to us for our recommendation.

Our native British Ferns have immensely advanced and improved. At the outset of the past century Ferns generally were an enigma to the biologist, and their varietal capacity only known to a minute extent, contemporary books alluding vaguely to a few monstrosities which might certainly be reckoned on the fingers. In the middle of the century "varieties" became the study of the pioneers, and some scores of fine forms had been found and many more good and bad had been raised. Since then a comparative handful of Fern lovers have sustained the cult and practically reformed it; the result is this list, and another result, we hope, will be a fuller apprecia-

tion in the present century of the outcome of their labours.

[The British Pteridological Society (President, Mr. Charles T. Druery, F.L.S., V.M.H.), having determined to celebrate the termination of the century by a properly authorised list of the finest varieties then extant, have appointed a committee to that end, with Mr. Druery as compiler and editor of the list in question. This being now complete, and associated with introductory matter relative to the habitat and culture of each species, we think our readers will be pleased to benefit by it, and have consequently arranged for its publication in a serial form in our columns, prior to its issue as a complete volume later on. All lists so far issued have been by individuals, hence this one is unique, as the outcome of the united experience of a body of practical Fern growers, Fern hunters, and connoisseurs, headed by one who for more than twenty years has made British Ferns and their varieties his special study.—Eds.]

GARDENING OF THE WEEK.

CHRYSANTHEMUMS.

DECORATIVE kinds, intended either for early mid-season or late flowering, may now be propagated. Though those especially for midwinter blooming can be struck as late as the end of March, and will then make capital plants in small pots, better results will follow if the cuttings are rooted in February. These may either be struck singly in 2½-inch pots or placed five round the outside of a large 3-inch pot, and little difficulty should be found in striking them at this season. Any intermediate house which is being kept close will suffice. After about a fortnight they should be fit to remove to a cooler and more airy structure. There is no doubt that the value of the Chrysanthemum for all kinds of decorations, either as plants or for supplying cut flowers, will increase, for beautiful as many of the large specimen blooms are when seen at their best, they are for many purposes far less unique than the light medium-sized blooms. Consequently, I would advise all those that have not taken the decorative varieties seriously in hand to give them an extended trial. Many of the best large flowering varieties of the Japanese section, if properly treated, adapt themselves admirably for such purposes, but those generally catalogued under the heading of decorative kinds are preferable. I am glad to notice that this section is being annually added to, many of the varieties being of sterling merit. At the same time, there is yet plenty of room for further improvement, especially among the very late kinds. Valuable as the Chrysanthemum is during October and November, it is infinitely more so during December and January, and I hope to see in the near future more varieties that are naturally adapted for blooming at this season. I know of nothing to equal the Chrysanthemum for giving cut flowers during the winter; if only for their lasting properties they are worthy of the labour bestowed upon them.

Mme. Desgrange and its sports when well grown for early flowering in pots are unequalled, and often prove invaluable for supplying flowers after early frosts. These require greater care in cultivation than many other early varieties, and from this date should be grown on without a check. I would advise rooting them singly in 2½-inch pots, and finally flower in 8-inch pots. I have always found them do better in a slightly lighter and more porous compost than is generally advised for other kinds.

SPECIMEN BLOOMS IN 6-INCH POTS.

Many varieties, both incurved and Japanese, respond well to this treatment. Some of the best blooms I saw last season were grown upon plants in this size pot. Good healthy cuttings should be selected any time within the next three weeks, and rooted in the ordinary way, choosing especially those varieties which are most persistent in

showing flower buds prematurely, such as Vivand Morel and sports, Vicountess Hambleton, &c. If good, free root cuttings can be obtained now, much less trouble will be experienced in this respect. The plants should be stopped when about 6 inches in height. One shoot only allowed to a plant, and secure the first or second bud, according to the variety. In addition to the kinds mentioned above, the following may be added: Oceana, Australie, Ella Curtis, Mme. Carnot and sports, Pride of Madford, Mons. Chenon de Leche, Mutual Friend, and Western King, Japanese; and Austin Cannell, Miss Violet Foster, Refulgens, Jeanne d'Arc, Duchess of Fife, Mme. Ferlat, Chrysanthemum Bruant, and Mrs. R. C. Kingston, incurved.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

THE FLOWER GARDEN.

SEED SOWING.

TUBEROUS BEGONIAS required to flower in the open the same year as sown can hardly be got in too early. The seed should be sown now and placed in stove heat, standing the seed pans or pots near the glass, but shading the soil with paper or darkened squares of glass. With regard to the soil used, I have found that much greater progress has been made by the young plants when the seed has been sown in a mixture of thoroughly decomposed leaf-mould and sand than has been made by seedlings raised in a mixture containing a big proportion of loam, and I would suggest that leaf-mould free from fungoid spores should form at least two-thirds of the bulk. Begonia seeds, being very fine, should be sown on the surface of rather finely screened soil and not covered in any way. Watering should take the form of spraying unless careful immersion of the pots—taking care not to float the seeds—is substituted.

EAST LOTHIAN STOCKS.

Should the hotbed, the making of which I wrote about a few weeks back, have now become nicely warm, Stock seeds may be sown on it either in soil placed directly on the surface of the bed or in boxes of soil made up in the usual way for seeds. Of course they will want covering with an ordinary garden frame, and when the seeds have germinated there must be careful attention to ventilation.

PROPAGATING.

Where stock is short among any of these subjects, a few store pots of which are struck in the autumn, propagation must commence as soon as the new-made growth is ready. Among these plants are Alternantheras, Lobelias, Verbena, Coleus, and the general run of soft-wooded plants used for bedding, and which are usually propagated from cuttings. A late start sometimes leads to the use of the old stock stools to make up shortage, and these are generally unsatisfactory.

OUTDOORS.

As early in February as the weather becomes fit and the soil dry enough for working planting of such things as Ranunculus and Anemones should be done. For both these plants, and for Ranunculus especially, a rich soil is desirable, and it is only in such soil that fine flowers are produced. The best way of enriching soil for these is to dig in a good quantity of cow manure, and it is not too late to do this now, though for preference I should get such work completed in the autumn. No other kind of manure is so suitable for the Ranunculus. Plant the tubers, claw downwards, about 2in. deep. If the soil is very heavy, a little sand should be put under the tubers, and the covering soil should also be lightened with sand. Anemones may be planted a little deeper, but the general treatment should be about the same with both these delightful spring flowers.

LILIES, &c.

Many bulbs which do not come to hand early enough to be planted in the autumn are often much enervated through storing till fit weather for planting comes. This is, of course, quite unavoidable in time of frost, but not a day should be lost if the chance comes for planting for

storage, even of the best kind, injures more than does the weather when once the bulbs are planted, and it is easy to protect the young growths later on. In the meanwhile, while waiting for weather the bulbs should be laid out singly in a cool but dry store room. In planting Lilies note should be taken as to their requirements in the way of soil, for though many will do fairly well in most soils for a time there is hardly another class of plant so fastidious, speaking generally. Alstromerias, which are often regarded as rather tender, lose this trait if planted some 7 inches or 8 inches deep, and this should be borne in mind when planting. In a similar way Eucomis punctata may be grown in the open almost anywhere if planted deep, though it is but rarely seen in gardens. J. C. TALLACK.

Shipley Hall Gardens, Derby.

FRUIT GARDEN.

EARLY PEACHES—POT TREES.

Of late years more attention has been paid to the pot culture of the Peach, Nectarine, and other fruits, and there is great gain by forcing pot trees, as they may be brought on more rapidly than permanent trees. As regards varieties, the Cardinal Nectarine, sent out a few seasons ago by Messrs. Rivers', is a splendid forcer, and gives fine fruits of good quality. This variety, started the early part of December, will now be in full bloom, and I have noticed that early Peaches or Nectarines in good condition always carry far too much blossom. With pot trees I would advise thinning and early disbudding; it is an easy matter to remove blossom where at all thick or misplaced. This gives those left more strength. During bright sunny days it will be necessary about midday to fertilise the bloom, and a small camel's hair brush or a rabbit's tail lightly passed over the flowers to distribute the pollen will do good. Though overhead syringing must cease at this period I do not advise a dry or too warm atmosphere. On bright days the paths and walls of the house should be damped over. Up to this date the trees have not required much moisture, but when the fruits are set more will be required; also damping overhead twice daily in bright weather. The water used should not be colder than the temperature of the house. The ventilation should now be more liberal—of course, climatic conditions always being taken into account. The temperatures may range from 55° to 60° at night in mild weather, with 10° more by day, and a liberal addition from sun heat.

EARLY PERMANENT HOUSES.

Fruit trees in this house, started at the end of the year, will now be swelling; syringing overhead will be needful twice a day to assist the trees. Moisture should be freely distributed over floors, paths, and walls to create a sweet growing atmosphere. The border should be sufficiently moist. If at all dry water thoroughly with tepid water, as a dry root run means bud dropping at this time of year. If there are outside borders protect them with some warm, dry material. I do not advise decayed manures, as this cools rapidly and retains the moisture, making the borders cold and soddened. Fresh leaves covered with corrugated zinc sheets throw off excessive moisture and form a good covering. A little more warmth may now be given to trees that are showing the colour of the flowers, but avoid high night temperatures. A temperature of 50° at night in cold weather is ample, indeed a few degrees lower in modern houses will suffice, as by maintaining the lower temperature now the bloom will be stronger. The same remarks as advised for pot trees apply to removal of buds and misplaced flowers; but a few of the early American Peaches, such as Alexander and others, are addicted to casting their buds. This should be borne in mind when thinning. So far we have had no trouble with the early Nectarines—I mean the Newer Cardinal and Early Rivers'. These force well if not given strong heat at the start.

LATER HOUSES.

There should be no delay in getting the cleansing and retying of trees finished in the succession and latest house. As these trees are often badly

attacked by insect pests now is a good time to thoroughly cleanse them. Black fly is a troublesome pest, and if not destroyed cripples the growths so badly that the next season's crop is much affected. Vacant parts of the house must be thoroughly overhauled, using a fresh lime-wash with a liberal portion of sulphur for the walls, and washing the older wood with carbolic, soft soap and water with a soft brush, then painting over with Gishurst and some sulphur. The trees are earlier than usual, owing to the mild winter, so that early cleansing is necessary, even in the latest house. Any additions to borders should also be undertaken. Top-dressings also are needed with trees that crop freely, and for this purpose richer materials may be employed, using bone-meal freely. Houses for latest cropping should have all the ventilation possible, but avoid saturating the borders. Heavy rains or snow should be guarded against. With latest trees that need retarding it may be well to cover the glass with mats during bright sunshine to prevent a high temperature, but a great deal depends upon the situation of the house and the varieties grown. G. WYTHES.

Syon House Gardens, Brentford.

KITCHEN GARDEN.

POTATOES AND CELERY.

POTATOES growing freely in pits must not be allowed to become drawn through lack of air, and further plantations may be made to secure an unbroken supply through April and May. The same remarks apply to Carrots, the first sowing of which will now require careful attention to keep the young plants sturdy. Make a sowing for succession in the same way as advised for the first pit. Celery may be sown in boxes and placed in

the forcing pit in order to supply heads as early in the season as possible. The young plants should be potted singly into 3-inch pots, in a compost of rich loam and leaf-soil in equal quantities, and placed in a heated pit near the glass, where they may be kept close for a few days until they begin to make fresh growth. Give air in increasing quantities until the plants are hardened off and ready to plant out in well-prepared trenches by the end of April; protection on cold nights will be necessary. If grown without a check and never allowed to become dry they will be less likely to run to seed. Veitch's Early Rose and Superb White are good varieties for early sowing.

LEEKS.

Where large well blanched Leeks are required early in the season no time must be lost in sowing seeds of some approved variety. They should receive the same treatment as that advised for Onions in last week's calendar until ready for planting, when a well-prepared trench should be in readiness for them the first week in May. Make this 18 inches deep, and fill to within 9 inches of the top with well-decayed farmyard manure, make firm, and cover with 4 inches of soil. Place the plantlets 1 foot apart and 3 inches deep. If intended for exhibition, strong brown paper collars should be drawn over them soon after they are planted, around the bottom of which must be placed a little soil. When the heart of the plant has grown above the collar it must be raised and earth drawn round the base until the required length of blanched stem has been secured. Give liberal supplies of liquid manure later. The Lyon is one of the best Leeks for this purpose.

HORSE-RADISH.

The present is a good time to make a plantation

of Horse-radish; this delights in a deep rich soil and a rather moist situation. The ground should be trenched and a layer of manure placed underneath. One should endeavour to obtain large roots before they are old enough to become hard. There are numerous methods of cultivation, but where only a limited supply is required the quickest and best way is to grow from young side shoots, 6 inches to 9 inches long, planted in rows 2½ feet apart and 1 foot from plant to plant, using a crowbar or long dibber for the purpose.

RHUBARB.

Make fresh plantations, which to be of best quality should be transplanted every four years in ground well trenched and heavily manured. A light situation suits it best, but it may be grown with a fair amount of success between rows of fruit trees or in any remote corner of the garden, so long as it is given a liberal quantity of manure. When planting roots to grow for forcing they may be placed 3 feet apart each way, but for permanent beds they must be in rows 5 feet apart and 4 feet from plant to plant; nothing should be pulled from the young plants the first season, as by so doing the strength of the root will be impaired and the crop for the second year reduced accordingly.

JOHN DENN.

Royal Kitchen Gardens, Windsor.

A PERGOLA.

THE pergola—a way of gardening that is borrowed from Italy—is just as suitable for English pleasure grounds, where a leafy and flowering shade over a garden walk is very pleasant in the heat of summer. The best class of pergola



THE BRICK PERGOLA AT CROOKSBURY.

is made with solid piers of brick or stone, with stout oak beams across. Many are the climbing plants that can be grown upon these structures—Roses, Jasmine, Virginia Creeper, Clematis, Aristolochia, and Wistaria—but nothing is better than the Grape Vine, which, after all, is about the handsomest climbing plant we have.

THE KITCHEN GARDEN. FORCING TURNIP WHITE GEM.

YOUNG sweet Turnips are always valued in the spring, and no matter how carefully old roots are kept, towards the end of April they commence to grow out and lose flavour. It is only of recent years that forced roots have found favour on the Continent. There is a large trade with these early-forced roots, and a stump-rooted variety called the Paris Market is a great favourite. I find that the longer root—the White Gem—is much better. This is oblong in shape, the quickest to grow I have tried, and is of delicious flavour; indeed, by sowing in a frame with a gentle bottom-heat, good roots may be had in less than two months. Some of the older varieties do not force well. Seeds sown in heat produce plants that run and do not bulb freely, but the White Gem is free from the evil referred to. Of course, no matter what vegetables are forced, there must be ample ventilation during growth, plenty of moisture, and good soil to encourage rapid growth. Such kinds as White Gem, that have a long, thick, Radish-like growth, remain sound for a longer time than the flatter roots, which soon age and become hard and flavourless. W.

AMATEURS' PERPLEXITIES.

THE LOGAN BERRY.

I SHOULD be very grateful for any information you can give me on the subject of Logan Berry bushes. Are they best grown in a bushy form by cutting back the shoots, or is it better to allow the shoots to grow their natural length and train them to stakes?—F. J. S.

[We are not at all surprised at your question, as this fruit is not much known. You write of bushes, but the Logan Berry assumes a straggling growth not at all compact or bush-like. These fruits were described a few weeks ago in THE GARDEN. When grown as bushes cut out the old growths after fruiting in much the same way as Raspberries are treated, and then loosely tie up the new growths. On the latter appear next season's fruit. We think the best way to grow these fruits is to let the new growths have ample freedom without much cutting back. The best fruits are obtained from plants on a north wall; the shoots are tied or nailed in their full length, cutting out the old fruiting ones as soon as the crop is cleared. The plants make a very free growth from the base each year, and should not be much shortened. If tied to stakes, allow 6 feet growths from the base. You may thin out weak growths, but in all cases give ample room, as the fruits being of an acid nature need free exposure.—Eds.]

COVERING THE SOIL ABOUT SHRUBS AND PERENNIALS.

"R. D." sends the following question:—"There is a bit of ground at the end of my mixed border, at right angles to it, and separated by a gravel path. When I took the house it was just a nondescript untidy place, with a few meaningless and ill-grown Laurels here and there. We cleared away the few bad shrubs, and at one side put a row of Ribes sanguinea. Towards the path is a thick row (in clumps) of Crown Imperials, and in front lots of

Tulips, Narcissi, &c., for about 3 feet wide. The whole bit of ground is 32 feet wide and 55 feet long. There are three big Fir trees of sorts, two little slim ones, and one little Walnut on the ground. The soil is clay, very wet and standing in water in winter, very hard and dry in summer. I want to see no earth if possible. What grass seed can I sow that will grow, or what can I put that will make a carpet all over? I have planted good groups of Foxglove and Honesty, some Solomon's Seal and St. John's-wort, quantities of bulbs are in, and also Primrose plants, but I want it to look green, and in summer when bulbs, &c., are over to hide the hard yellow earth. I fear Bracken would not grow, and in any case, in spite of the arguments that have been going on on the subject, I still do not understand what would be the best way to plant it or sow it. Do you think it would grow? I love the look of it in summer. I sowed a lot of Sheep's Fescue Grass seed early last autumn, but very little has come up. You see it is more or less shaded by the trees and gets the drip, and yet in summer, when we only have light showers, rain hardly falls on the ground part, so it gets hard and dry. It looked very nice when the bulbs were out, and this year I hope the Foxgloves, &c., will do, but what after? So far I have not been able to manure it or do much to it, as all we had has been used for borders and beds. I should be very grateful for advice."

[It was a mistake to sow the fine Fescue Grasses in a rather shaded place on a clay soil. They belong to open sandy or peaty places. An ordinary mixture of meadow or the green lawn grasses would have been better. Bracken is not easy to establish unless you can get it in large deep sods; but the best thing would be to plant the good hardy Male Fern, partly grouped and partly single, so as more or less to cover the ground when the bulbs are over. A good mulch of rotten leaves renewed yearly would both help the bulbs and keep the ground from hardening in drought. Some bushes of Guelder Rose would look well grouped behind and among the Ribes. St. John's-wort is much too robbing a plant to have among bulbs. Its place is in dry banks where there is nothing else for it to kill, or near trees so well established that they cannot be hurt. The little Walnut had better be moved while it is small, unless you wish to look forward to it for filling the whole space.—Eds.]

NEW TUFTED PANSIES (VIOLAS).

IN reply to "S. S. R.," many good new tufted Pansies are introduced each season. The exhibition of tufted Pansies in sprays, each containing at least half a dozen flowers, appeared at one time likely to become popular, but, owing to the tedious process of wiring each flower, this method was abandoned. It hardly seems possible that within less than ten years so much progress with these flowers can be recorded. The charge is made by some of the older florists, who have given but scant attention to the tufted Pansies in the last decade, that the varieties of recent origin are poor, the plants of bad growth, and the flowers of poor substance. It may be safely said that modern raisers are raising plants of almost perfect habit, with large flowers in abundance borne on stout, erect footstalks well above the foliage. Good self colours are in the ascendant, and, as the majority of the newer varieties are rayless, their effect when massed in beds and borders by themselves is distinctly better than in the case of those of the rayed type, however neatly pencilled. A few sorts deserving special note at this season when the spring planting is already demanding consideration are subjoined:—

Nellie Riding.—A large, refined, rich golden-yellow self of good form and substance, stout, erect footstalks, dwarf growth. In the early spring and late autumn the flowers are faintly rayed, but in the summer season this pencilling disappears.

Edward Mason.—Another very large flower of circular shape, of the purest white, with an effective yellow eye, and rayless. A promising white self, of excellent habit.

Niobe.—Although introduced in 1899, little has been heard of this superb white self. It is a pure white, rayless flower, with a neat, yellow eye, and medium size. The growth is perfect.

La Vierge.—A lovely pure white circular flower with an orange eye. It is rayless, and the plants are of good habit.

Yellow Prince.—This is an advance on those of a yellow colour, being a rich canary yellow flower of large size, neatly and faintly rayed. The habit is dwarf and compact.

Yellow King.—As a bedding sort this new variety is a decided acquisition. It is a rich yellow flower, with a deeper coloured lower petal, and is also rayless. It flowers as freely as Devonshire Cream, and makes the same good growth.

Thrasher.—A very large flower, of a distinct shade of deep heliotrope blue, and a great improvement upon a variety named Ophelia. Each flower is developed upon a long, stout footstalk, standing out well above the foliage.

Golden Queen.—Another large, handsome, neatly-rayed, rich golden-yellow variety of good habit. This is also of strong growth.

Prometheus.—This is probably one of the largest of the tufted Pansies, developing immense circular flowers of a golden-yellow colour, heavily rayed. When the plants attain goodly proportions their effect when freely flowered is very telling.

Immortalité.—This new kind has given us flowers of a pale lilac-lavender shade of colour similar to those of Florizel, but much larger, also faintly rayed.

Leda.—Those who care for margined flowers will appreciate this variety. The flowers are prettily margined with pale china blue on a white ground. The habit of growth, too, is all that can be desired.

The foregoing sorts will give some idea of the beautiful varieties now being distributed. If planted in open weather before the middle of March they should flower well.

NOTES FROM IRISH GARDENS.

ST. HELEN'S, CO. DUBLIN.

ON the occasion of a former visit to St. Helen's, the property of Mr. J. G. Nutting, at Booterstown, Dublin, the place was in a state of transition. It had not long been acquired by its present owner from the representatives of the late Viscount Gough, and extensive improvements were in progress, involving great changes in the mansion and its surroundings. A second visit, at the end of last summer, showed many of these completed, although others were still on hand. The sea or garden front of St. Helen's has a magnificent view over Dublin Bay, one of the most beautiful prospects in the kingdom. Descending the terrace in front, we are in the Italian garden, one which has been wisely retained almost unaltered as in keeping with the character of the building, and a good example of the best gardens of its kind. There is about it a simplicity and boldness often wanting in these Italian gardens, and the effect is correspondingly good, so that even those wedded to the informal garden are constrained to admit its beauties. The beds are comparatively few, and many are filled with permanent material, such as small shrubs, which not only lessen labour, but give the garden a better appearance. Others are filled with bedding plants, so that each season may give the variety and effect needed in such a position. At the lower end of the Italian garden there is a border of good herbaceous plants, including a number of Flag Irises, which look well against the terrace wall. A pretty little park stretches beyond, and it is in contemplation, I believe, to convert an old gravel pit, at present rather a mar to the view, into a more picturesque feature.

The approach to the main front, like a large proportion of the estate, is finely timbered with

old trees of great beauty. Near the house a great improvement has been effected by the formation of a pretty little lake, fed by a stream which flows through the demesne, and is spanned by a rustic bridge, a cascade adding to the interest of this feature of St. Helen's. The margin of the lakelet has Pampas Grass, Gunneras, and Japanese Irises to add to the appearance of its irregular outline.

When I first saw the walled garden I thought it quaint in the extreme, reminding one of some of the old gardens figured in the works of the eighteenth century. It lies on a steep slope, and it had across it a range of old houses, antiquated from the point of view of a plant grower, but delightful to the lover of the quaint. Unfortunately, these were in a state of decay, so that they had to be cleared away. Modern structures at the bottom of the garden have taken their place, and the Vines and other things in these promise well.

As cut flowers are much required, the vegetables have been sent further afield, and this garden devoted mainly to growing the former. In the borders, which are of good width, one saw Asters, Helianthus, Delphiniums, Phloxes, Pyrethrums, and Roses, with a number of the most useful hardy flowers of other genera. The idea is to have a constant supply so long as the seasons will permit. To this end annuals and biennials are freely introduced. To lessen the pressure on the borders many useful plants for cutting are grown in beds in quantity, and the less useful for cutting, but pleasing alpine flowers are used to fill various nooks in the rockwork terrace which now bisects the garden in lieu of the old greenhouses.

In a place like St. Helen's it is difficult to wed the old to the new without a jarring effect. There was, however, and there still is, an opportunity of doing good work of this kind here, so as to make the place suitable for the needs of the present without destroying the best of its old features. This is likely to be attained by a continuance of the course which has been begun. A few years should make the demesne one of the most desirable in the vicinity of Dublin, where there are so many gardens of great beauty. S. ARNOTT.

MISCELLANEOUS.

CHINESE PÆONIES AND HALF STANDARD ROSES.

NOW that so many beautiful tints prevail among Chinese Pæonies these will surely be extensively planted, and what better arrangement could there be than to plant in beds or borders in association with half standard Roses. The soil that grows the latter to perfection will also suit the Pæonies, and the partial shade the Roses afford is also of much benefit to them. Pæonies should be planted where they can remain undisturbed, so that the mingling with Roses would not be detrimental in any way, for the latter, even if it be found necessary to replant every three or four years, could be readily removed and replanted. Pæonies take some two or three years to become established, therefore the bed or border, by having Roses interspersed which would blossom the first year, would not be an eyesore during that time. Then what a delightful bed of coloured foliage we should have by mingling the two subjects! Nothing in the herbaceous way produces such a charm in its tender foliage as do Chinese Pæonies, and everyone is aware of the beautiful tints of the foliage which prevail in the vast Rose tribe when in their young state. I would advise bastard-trenching the land previous to planting, and a liberal amount of decayed farmyard manure should be incorporated with the bottom layer of soil. Cover the crown of the Pæony clump with 4 inches of soil, and the roots of the Roses should be about 6 inches below the surface. If the Roses are disposed from 3 feet to 4 feet apart this would allow ample space for a clump of Pæonies to be planted alternately.

Pæonies often promise well in May, but somehow they drop their buds. Whilst this may sometimes be due to spring frosts, more often it is traceable to the drought during July and August, when the plant is forming the crowns for next season. To avoid injury from this cause, copious waterings should take place during these two months if very dry, and the watering would also benefit the Roses. The best time to plant Pæonies is in September or October, but they may be planted up to February should frost not hinder. If the weather be dry at the time of planting do not fail to afford water to the Pæonies, but dipping the roots of the Roses into thin mud would suffice in their case unless the dry time was of very long duration. P.

HARDY FRUITS IN SEASON.

I MENTIONED in a former letter that the varieties of dessert Pears were considerably narrowed down after Christmas. Up to that time we have any number of excellent varieties to select from, most of them good in quality and flavour, and no scarcity of good sorts should be experienced in any well-managed garden. But the case is very different from Christmas to Easter. This is the time of scarcity and high prices in native or other high quality and good-flavoured Pears, and, moreover, this is the season in which British Pears have been

may be had in condition for dessert through the greater part of the month of January. Here I would for a moment draw attention to a diminutive, little-known January Pear, native of America—Dana's Hovey. To those readers of THE GARDEN who love fruit first and foremost for its flavour (and I am sure they are the majority), I would say, do not be without this little gem. The fruit is certainly very small, but so sweet and delicious; in my opinion, it is the sweetest of all Pears. What a field opens out with this variety to our hybridisers of fruit. Get the flavour of this, for instance, into Easter Beurré, Ne Plus Meuris, or any other of our hardy prolific late Pears! Here it is grown in the open as a pyramid, and never fails to bear a fair crop. The growth of the tree is diminutive, and consequently they may be planted rather closely together, not more than 5 feet apart for young trees just brought in from the nursery. They could with advantage be replanted wider apart in the course of three or four years. The variety is ripe from Christmas to the end of January.

Bergamotte d'Esperen is one of the most reliable bearing late Pears we have. It succeeds well as a standard or bush in the open, and in most seasons is of excellent flavour. As with all late Pears, the fruits should be allowed to



PEAR BERGAMOTTE D'ESPEREN.

(Size of original: Height 2½ inches, width 2½ inches.)

beaten all along the line by imported fruits. I do not think that the question of the growth and supply of late home-grown Pears for market and home consumption has ever received the serious consideration it demands from British gardeners or growers for market, yet it is the time of all the year when fresh fruit is the most scarce and when it commands the most remunerative prices. Surely the subject is an important one, and one well worthy the attention of fruit growers, and is one also, I think, the Royal Horticultural Society, as the only national society representing this aspect of the nation's food supply, should take in hand, giving the lead to those who are anxious to follow, and leading them to sure and successful results.

It will be remembered that in my last paper I made a strong point of recommending Beurré de Jonghe as one of the best Christmas Pears we have. I mention it again to emphasise the fact. Winter Nelis, like good wine, needs no recommendation. It is still, and always will be, one of the very best Christmas Pears. It needs a wall with south aspect to bring it to perfection, but when grown as a pyramid or standard in the open on the Quince stock, as it may certainly be done in this part, the fruit

hang on the tree as long as possible. How frequently is the mistake made of gathering late Pears before they are in a fit condition for harvesting on the plea that if there is a strong wind the fruit will be blown down and spoilt! Far better be spoilt in this way than to incur the expense and trouble of collecting and harvesting the fruit before it is ripe, and then to have to throw it away as shrivelled and useless. Let me impress upon all fruit growers the importance of allowing late Pears to hang on the trees until quite late, even if nets have to be suspended under the trees to receive those fruits which may accidentally fall.

I will conclude this paper by drawing attention to a comparatively new late Pear of much promise and great excellence, namely, Dr. Joubert. It is now in season, and with careful handling will last throughout the greater part of the month. In size it is equal to Doyenné du Comice, and not unlike it in shape, colour, and appearance. In quality it is melting and juicy, without the faintest trace of grit, which is so objectionable in most of our late Pears. Its flavour is sweet and pleasant. The tree is a vigorous grower, a good cropper in the open ground as a pyramid, and when grown on a

wall it attains a large size, some samples weighing close on a pound, but its flavour is not improved by the assistance of a wall, neither does the fruit then last in season so long.

SOME GOOD LATE PLUMS.

THERE are some few Plums remarkable for their good flavour and keeping properties. These deserve to be more generally recognised, and especially in private gardens. Often in seasons like the past there is a glut for a few weeks and then a great scarcity. This, however, should not be, seeing how many kinds there are to select from. Good fruit may be had from open walls for four months. It is worthy of note that late kinds of Plums are not influenced by climatic conditions in the way that are late Peaches and many kinds of Pears. In proof of this I may say that in our garden I have never found late Plums affected by cold wet autumns as other fruits are. Again, with us many kinds of Pears are, comparatively speaking, devoid of flavour, but Plums are not so. These are points that should induce those who are in cold or low lying situations to plant these more freely.

I am convinced that there is more flavour in Coe's Golden Drop Plum than in any late Peach, and few things are more handsome than a good dish of these Plums. The past abundant season should have taught many cultivators one great lesson, namely, the keeping powers of these late kinds. Nothing can be more discouraging than to see good fruit perish by rapid decay, as is the case with many soft kinds, but not so with the late varieties. I have found that some kinds will keep three times as long as others, a matter of considerable importance, either from a market or private grower's point of view, often only a week makes considerable difference in the price. This should induce growers to study the best varieties. I have been making notes regarding many kinds, and more especially the late ones, in which I include those that ripen at the end of September and October. Out of many I will name a few that are remarkable for their keeping and high flavour. Golden Transparent Gage deserves to be much more widely grown. It is as a late Gage what McLaughlin's is as an early kind, and nothing can be more delicious in flavour than good fruit when well ripened and highly coloured. Last year we had a fine crop from trees growing on a west wall in a narrow raised border. Grown in this way, all tendency to a too vigorous growth is checked; from the middle of September to October 24 there were good fruits, and, although we had plenty of late Peaches, the Gages were preserved.

Transparent Gage and Guthrie's Late Green were first during the latter half of September and the first half of October. These were grown on the same wall as Golden Transparent, and although somewhat larger they did not equal it in flavour. These trees are growing against stone walls, but I find that to obtain the best results from Reine Claude de Bavay, a brick wall and a warmer site are necessary if the finest flavour is to be had. This is also a strong grower, and requires pinching in a green state rather than pruning. Good as these Gages are the most prominent position must be given to Golden Drop, all points considered, for in this we have size, flavour, and appearance, with long keeping properties. This variety is so well known that description is needless. I may say that with us this season the fruit is especially fine and well coloured from trees growing against a brick wall facing east. Some may think by growing this on a north aspect the fruits would be had later; we, however, do not find this so from a tree growing on a north wall; it crops well, but the fruit is never so good in colour as on west and east walls.

Ickworth Impératrice stands alone as a blue late kind for flavour; no other can equal it. It should have a position given it on a west wall. In a warm locality it makes a good bush tree. Some think it a poor grower, but this is not so with us. It is only by allowing the fruits to hang late that the finest flavour is developed; when gathered they are much improved by being placed in a warm position for a few days. It is when these highly flavoured

kinds are so ripe as to partially shrivel that they are at their best. It may be asked how this can be done on open walls, when the ravages of birds and insects have to be contended with. These may be overcome by protecting the fruit with close netting. Cooking kinds are often needed, and although the above kinds are unsurpassable for this purpose for flavour, some other kinds break down when cooked more readily, and amongst them Monarch must be named. This is a fine late kind; with us it grows strongly in a young state, but this is now modified, as in 1899 it bore an enormous crop. Other good cooking kinds are Autumn Compôte, Belle de Septembre, and Grand Duke; these are all worthy of being grown to keep up a late supply. Many small growers may profitably try growing Plums in pots, plunging them in the open in summer, as they adapt themselves well to this mode of culture.



A SPECIMEN "PITCHER" PLANT (NEPENTHES MASTERSIANA).

NEPENTHES MASTERSIANA.

THE plant represented in our illustration is a rather good specimen from the collection of choice stove plants in the possession of Miss Lavers, of Upton Leigh, Torquay. Mr. Lee, the head gardener, who specially supervises the Orchid and kindred houses, states that this plant was grown in the general stovehouse, suspended from the roof in a teak basket filled with peat and sphagnum, and generously watered. He usually prunes it with care at about Christmas, and rebaskets it in the spring. As most growers of these plants are aware, their carnivorous habits necessitate an occasional emptying of the pitchers, because their accumulated masses of putrid insects tend to vitiate the air and render the Orchid house anything but pleasant to the olfactory nerves. Always interesting as these plants are, the one depicted is specially so on account of the various stages of development its "pitchers" show.

W. J. ROBERTS.

THE FLOWER GARDEN.

CROCOSMIA AUREA AND TRITONIAS (SYN. MONTBRETIAS).

MONTBRETIA CROCOSMIEFLORA and the series of plants derived from it form a very interesting botanical group, not simply from the point of view of the gardener, who knows the many uses of these beautiful plants, but also from the naturalist's point of view.

It is generally admitted by all that hybrids are, as a rule, either absolutely barren, or at most produce descendants as lacking in number as they are also in vigour and in reproductive qualities. Now Montbretia crocosmieflora is a hybrid, and by no means an ordinary hybrid, for it is one of the very small groups of bigeneric hybrids, its two parents ranking as species of different genera, and yet it has given birth to a long line of vigorous and fertile plants which are almost indispensable for

the ornamentation of gardens, and whose use as cut flowers is quite unsurpassed.

It is more than fifty years since the family of Iridæ was enriched by the introduction of Tritonia aurea, whose name was changed some years after by Planchon to Crocosmia aurea, because he found that all the characteristics of this species were absolutely distinct from those of the old Tritonia crocata or Ixia crocata and other allied species. Though greatly praised at its first introduction, this plant was, however, not very extensively grown, and one only met with it in the gardens of amateurs, who were more enthusiastic over rare and interesting species than over popular flowers, which could be planted in orderly masses of bright colours, producing a great but somewhat vulgar effect.

From a small round corm springs a little tuft of long narrow leaves, from the centre of which rises a flower spike 2 feet or 3 feet high, slightly branched, and decked with large regular blossoms, with six orange-coloured segments, the individual flowers opening successively. As soon as the fertilisation is complete, the fruit develops into a bright reddish brown globular capsule, which looks like a berry, but contains three large reddish purple fleshy seeds. The corm sends out very long underground stolons, which, if the plant is left undisturbed, produce new corms, often at considerable distance from the parent. A light soil is best for Crocosmia aurea.

The introduction of Montbretia Pottsi is of more recent date, hardly exceeding twenty-five years. Although the flowers of this species are much less beautiful, it nevertheless rapidly became popular, and was extensively cultivated, the reason being that though the individual flowers are smaller and less regular and showy, there are far more of them on each bloom-spike, and the plant is hardier, less exacting as regards soil and cultivation, and much more vigorous. Each corm sends out quantities of short stolons, which shoot up all round it, so that at the end of the season you have a clump instead of a single plant. The flowers are irregular, and opposite each other on the spike; the three stamens are placed parallel to one another above the style, and the fruit consists of a dry capsule, with three many-seeded compartments, the little seeds being dry and grey.

The crossing of these two species—effected by M. Lemoine, of Nancy—produced Montbretia crocosmieflora, which he put into commerce in the year 1882. It is needless to sing its praises, for everyone knows its orange-red flowers, with six segments twice as long as those of Montbretia Pottsi, and opening successively all along the tall spikes with their numerous branches. Everyone knows, too, its wonderful vigour, the ease of its cultivation, and the rapidity with which it increases,

so that it is by no means surprising that it is found in every garden on the Continent, and is absent from but few in England.

This bigeneric hybrid bears seed naturally; but as these produce plants almost identical with the parent, it is not of much interest to raise seedlings. Very great interest may, on the other hand, be obtained by raising plants from seeds of *M. crocosmiflora*, artificially fertilised with pollen of one or other of its parents. This was done from the very first by M. Lemoine, and the result has proved most satisfactory, and certain different characteristics have been produced in these new forms, which it has been found possible to fix, to modify, and to improve by cross-breeding. We must limit ourselves to a chronological list of varieties of *Montbretia* successively sent out from Nancy, at the same time remarking that several of them have since been discarded from our list as being inferior to our later acquisitions.

In 1883 we sent out *M. elegans* (since discarded), a dwarf plant with bright orange-yellow flowers.

In 1884 came *M. aurea*, chrome-yellow, and *M. pyramidalis*, apricot (both discarded).

In 1885 appeared *M. Bouquet Parfait* (discarded), large scarlet and yellow flowers; *M. Gerbe d'Or* (discarded), golden-yellow trumpet-shaped flowers; and *M. Etoile de Feu*, with large open flowers, which is still one of the best of the bright red varieties.

These were followed in 1886 by *M. Phare* (discarded), like *M. crocosmiflora*, but somewhat more erect; *M. Solfaterre* (discarded), pale yellow; and *M. Pottsi grandiflora*, which would have been more appropriately named *M. Pottsi discolor*.

In 1887 *M. Drap d'Or*, with large golden-yellow flowers; *M. Eldorado*, a very dwarf plant, with flowers of the colour of yellow ochre; *M. Incendie* (discarded), small bright red flowers.

In 1888 *M. Rayon d'Or* (discarded), yellow with large segments; *M. Talisman* (discarded), small orange flowers; *M. Transcendant*, orange and yellow.

In 1889 *M. Pluie d'Or* (discarded), golden-yellow; *M. Soleil Couchant*, one of the most beautiful of all the yellows; *M. Tigridie* (discarded), yellow ochre colour, spotted at the base.

In 1890 *M. Aurore*, beautiful golden-yellow flowers.

In 1891 *M. Etincelant*, bright red; *M. Feu d'Artifice*, magnificent spikes of orange and yellow, a beautiful plant, well fitted for the centre of a group.

In 1892 *M. Auricule*, ochre colour, with decided brown markings at the base; *M. Fantaisie*, very erect, scarlet and yellow; *M. flore-pleno*, double flowers, yellow ochre coloured; *M. Fleuve Jaune*, of the clearest sulphur colour.

I break off the chronological list of varieties here because from this date certain new constituents have had a share in the production of *Montbretias*, for during the last few years two varieties of *Crocasmias*, previously unknown, have been introduced.

Crocasmia aurea maculata was received from South Africa through the agency of Mr. James O'Brien, V.M.H. It is distinguished from the type by its much larger flowers, by the more regular and symmetrical arrangement of its segments, and, above all, by the existence of very curious brown spots situated at the base of the perianth.

A short time afterwards Herr Max Leichtlin, of Baden-Baden, sent out a giant variety of *Crocasmia aurea*, to which we gave the name of *C. aurea imperialis*. The spikes are twice as high as those of the type, and the flowers and the segments twice the size. Its colour is of a magnificent and brilliant orange-yellow. Herr Max Leichtlin is said to have obtained it by selection from several successive generations of seedlings. It is certain, however, that this plant does not come true from seed.

The crossing of these two new species with our *Montbretias* has given us several magnificent varieties, but, unfortunately, a large number of our seedlings, and by no means the least beautiful of them were attacked by a disease very common in beds of *C. imperialis*, and, though with great regret,

we have felt obliged to destroy a number of varieties of really very striking beauty in order that none but entirely disease-proof ones might find their way into commerce.

Having thus explained the advent of fresh and distinct *Crocasmia* influence, we resume our chronological list.

In 1894 the following varieties appeared:—*Arc-en-ciel*, magnificent orange flowers spotted with brown, still a very rare sort; *Eclatant* (superior to *Etincelant* and *Volcan*), with spikes more than 4 feet high, and orange-red flowers.

In 1895 *Lustre*, a very vigorous variety, with erect flowers of yellow ochre colour; *Turban*, yellow freely spotted with black.

In 1897 *Couronne d'Or*, maroon and yellow; *Martagon*, yellow and orange, with very curiously shaped segments, reflected like the *Martagon Lily*; *Oriflamme*, scarlet with a golden centre; *Brilliant*, the most brilliant of the scarlets, superior to *Etoile de Feu*; *Congo*, golden yellow; *Diadème*, yellow spotted with maroon; *Profusion*, orange and brick red.

In 1898 *Distinction*, yellow edged with orange; *Globe d'Or*, double golden yellow flowers; *Tête Couronnée*, very large orange-yellow flowers with a large black ring in the centre.

In 1899 *Auréole*, a curious plant, having golden-yellow flowers, with a large centre of pale straw colour, edged with a broad chestnut-coloured border; *Messidor*, pale Naples yellow passing through straw colour, and almost white.

This list does not pretend to include all the varieties of *Montbretia* that have been put into commerce, for many raisers (for example, M. Léonard Lille, of Lyons; Herr Pfitzer, of Stuttgart; M. Walker, of Bougival; Messrs. Gerbeaux and Crousse, of Nancy) have raised very interesting varieties. It is of interest more from an historical point of view than from that of its practical use to amateurs; indeed, its chief object is to show the progress made from year to year with this particular family of plants.

To those who wish to plant extensively for the purpose of either forming beds or securing abundance of cut flowers, I should recommend the following as being vigorous, easy of cultivation and of increase, and producing an abundant succession of flowers:—*Etoile de Feu*, *Eldorado*, *Transcendant*, *Soleil Couchant*, *Feu d'Artifice*, *Auricule*, *Fantaisie*, *Fleuve Jaune*, and *Volcan*.

But for those who desire to collect into their gardens beautiful plants which are not to be found everywhere I should recommend *Aurore*, *Flore Pleno*, *Turban*, *Martagon*, *Oriflamme*, *Brilliant*, *Globe d'Or*, *Tête Couronnée*, *Auréole*, and *Messidor*, but not forgetting *Crocasmia aurea maculata* and *C. aurea imperialis*.

The culture of *Montbretias* is of the simplest.

They delight in light and sandy soils exposed to the sun, but they also do very well in heavy and clay land. The dry corms may be planted in March or April, or they may preferably be started in frames, and planted out when partly grown. During the flowering season, which lasts from July to September, they should be watered in case of drought. After the flowering is over they may be left in the open air if they are covered with a layer of dry leaves, at least in climates like ours at Nancy, where the winters are often very severe. We prefer, however, to take up the corms in autumn, storing them in layers during the winter in sand, or in any other

material holding a little moisture, to protect them against frost or heat. They must not be allowed to become quite dry, as in that case the multitude of offsets which surround each corm are in danger of being entirely dried up, and the increase of the plants is very much hindered. In the case of *C. maculata* and *C. imperialis*, it is absolutely necessary to store them in flat layers, as the stolons, which in their case are much longer and fewer in number, are more easily destroyed, and the corms themselves sometimes refuse to start.

The disease which I have already mentioned as occurring amongst my seedlings has also been remarked by others. Whilst the plants are in full and vigorous growth a few of the leaves suddenly turn yellow and dry up. Then the flower spike does the same, and the plant is rapidly destroyed. If you cut the corm in halves you see that most of the woody fibres have turned black. It is necessary to at once discard and burn all the affected corms, and only to keep those which are absolutely free from the disease. Moreover, we advise that whilst the corms are out of the ground they should be dipped two or three times during the winter in some Bouillie Bordelaise. It is a precaution which has rendered us the greatest service. Another precaution consists in not planting *Montbretias* for several years in the same soil or place where the disease has existed.

[By M. Emile Lemoine. Reproduced by permission from the Royal Horticultural Society's Journal of 1900.]

CLEMATIS WILLIAM KENNETH.

This is one of the most beautiful of the *Clematis* tribe; it belongs to the *lanuginosa* group and has large lavender flowers. It was a beautiful picture last year on my house (see illustration).

Hants.

A. R.

SOCIETIES.

BARNESLEY CHRYSANTHEMUM SOCIETY.

THE fourteenth annual meeting of members of this society took place on Monday, January 21, when there was a large attendance, Mr. W. Robinson presiding. Mr. W. B. Armitage, the energetic secretary, produced a very satisfactory report and balance-sheet, the latter showing a profit of £3 16s. 8d. upon the last year's working, thus swelling the reserve fund to £29 10s. 1d. It was pointed out that expenses which were thought unnecessary had been avoided this year, enabling the society to give better prizes, in all amounting to nearly £100. The entries were not so numerous as on former occasions, being only 176, as against 217 in 1899, but it was generally admitted that the specimens sent from all parts of the country for competition in the group and vase classes, which offered, besides good prize money, the National Society's certificate, were of a higher standard. The gift of a twelve guinea challenge cup, presented by four gentlemen for local competition, was considered highly



CLEMATIS WILLIAM KENNETH.

encouraging to growers in the locality. It is intended to ask Messrs J. P. Leadbeater, Tranby Croft, and Mr. Tunmington, Caldestone, Liverpool, last year's judges, to adjudicate at the forthcoming show, which is fixed for November 14 and 15.

ROYAL HORTICULTURAL SOCIETY.

The very limited display of flowers at the Drill Hall on Tuesday last was hardly to be wondered at, especially considering the sharp frost experienced the same morning. Probably many intending exhibitors were deterred by reason of this.

The Primulas from Messrs. Cannell and Sons and J. R. Box, and the collection of Apples from the former were particularly meritorious.

ORCHID COMMITTEE.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young), arranged the only extensive exhibit before this committee. *Phalenopsis schilleriana* was very well represented, and *P. amabilis* also. *Laelia anceps* and its varieties *L. a. Williamsi*, *L. a. alba*, and *L. a. sanderiana* were included. *L. a. alba* is faintly tinged with pale greenish yellow in the throat, *L. a. Williamsi* is more robust, and the throat is marked with purple lines. *Cattleya chocoensis alba*, *Phalenopsis grandiflora aurea*, with large pure white flowers except for a tinge of yellow in the lip, *Laelia anceps Hilli*, the lip prettily tinged with pale purple, *Zygocolea wiganiana* (*Z. intermedium* × *C. jugosus*), *Odontoglossum Harryano-crispum*, *Cypripedium godseffianum*, a fine flower of *C. insignis* (Harefield Hall variety), the dorsal sepal heavily blotched with purplish-brown on a pale yellow ground, margined with white, *Phaius simulans* (?) were also included, and *Phalenopsis schilleriana* *vestalis* created a good deal of interest as being the only white variety of *P. schilleriana*, and we believe the only plant of this variety in cultivation. A silver Flora medal was awarded to this most interesting group.

An Orchid sent from Kew created a great deal of interest. Mr. Rolfe described it as *Phaius tuberculatus*, and sent the following remarks concerning it: "It is a terrestrial species identical with the original *Limodorum tuberculatum* of Thours. It has been recently introduced by Mr. Warpur, of Madagascar. The epiphytal species known in gardens under the above name, and figured in several works, is not the original plant, and I have renamed it *Phaius simulans* in allusion to the remarkable resemblance which its flowers bear to those of the original species." The specimen sent from Kew was much more vigorous than the plant labelled *P. tuberculatus* in the collection of Sir Frederick Wigan, although this, for *P. tuberculatus*, was supposed to be very true. Several Orchid experts were of opinion that the plant sent from Kew was a natural hybrid between *P. tuberculatus* and *P. humbloti*, both natives of Madagascar.

Messrs. Hugh Low and Co. sent *Cypripedium Prewetti* (a hybrid of which *C. leeanum* is one parent, the other not being known) and a white variety of *Cattleya Trianae*.

Captain C. C. Hurst, Burbage Grove, Hinckley, exhibited a collection of hybrid *Cypripediums*. *C. grovesianum* Dakinii, of a rich yellowish brown; *C. Adrastus* Dakinii, having a beautiful dorsal sepal, deep purple, shading into white near the margin; *C. Adrastus* burbagenae, a striking flower, distinct and pleasing, the dorsal sepal is heavily and clearly spotted with purple, were some of the best.

Mr. De B. Crawshaw exhibited *Odontoglossum Rossi* Raymond Crawshaw and O. R. Lionel Crawshaw, both exceedingly fine varieties. Two forms of *Odontoglossum crispum*, a dark form of *Laelia anceps*, and *Odontoglossum Hallii crispum aureum* were also exhibited by Mr. De B. Crawshaw. The latter failed to obtain an award by one vote only. The flowers are very symmetrical, the pale yellow ground being blotched and marked with chocolate-brown. The fringe below the column distinctive of O. Halli was well marked.

Mr. H. A. Tracy, Orchid Nursery, Twickenham, showed *Lycaste Balle superba*, a hybrid between *L. Skinneri* and *L. plana meuresiana*, a fine flower, the colour best described perhaps as dull rose-crimson. *Cypripedium Mary Beatrice*, *C. bellatulum* × *C. Generi magnificum*, was sent by Mr. Walter Cobb, Dulcote, Tunbridge Wells. The plant was carrying one flower fully open and a bud. This obtained an award of merit at the Temple Show last year. It is a handsome flower, beautifully lined and spotted on a dull crimson ground.

Mr. J. Forster Alcock, Northchurch, Herts (gardener, Mr. Foster), exhibited a hybrid *Cypripedium* between *C. harrisianum* superbum and *C. Charlesworthi*.

Mr. E. De Quincey, Oakwood, Chislehurst (gardener, Mr. G. B. Lees), sent *Odontoglossum londonboroughiana*.

Messrs. Heath and Son, Orchid growers and importers, Cheltenham, arranged a group, chiefly consisting of *Dendrobies* and *Cypripediums*. *D. Edithae* (Chamberlain variety), *D. splendissimum leeanum*, *D. amesae* × *cassiope*, and *D. Bensonae* × *cassiope* were included.

FRUIT COMMITTEE.

Messrs. Cannell and Sons, Swanley, Kent, exhibited a collection of sixty dishes of Apples, comprising many fine and highly-coloured fruits in good condition. Bismarck, Gloeheim Orange, Chelmsford Wonder, King of the Pippins, Gooseberry Apple, Lord Derby, Small's Admirable, and Lane's Prince Albert were some of the best amongst this meritorious and interesting collection. Silver Knight medal.

A seedling Apple, Bertha, the result of a cross between Cox's Orange Pippin and Cornish Aromatic, was shown by Captain Carstairs, Welford Park, Newbury (gardener, Mr. C. Ross), but no award was made.

Miss Breton, Forest End, Sandhurst, Berks (gardener, Mr. Robert Handley), sent a collection of Yams (*Dioscorea Batatas*). Vote of thanks.

Messrs. H. Cannell and Sons sent a collection of splendidly grown Onions in the following varieties: *Ailsa Craig*, *Cranston's Excelsior*, and *Reading Improved* Coconut, and were deservedly awarded a cultural commendation.

FLORAL COMMITTEE.

The chief features before this committee were the fine strains of *Primula sinensis*, of which there were two collec-

tions on a rather large scale. The more extensive group was that from Mr. John R. Box, of West Wickham and Croydon. The plants were well grown and carried large heads of bloom, in which the size of the flowers individually spoke well of the strain, and equality of the culture. King of the Blues; Princess Mary, white; Emperor, carmine-red; White Perfection, an especially good thing and vigorous of habit; Queen Alexandra, a model white kind; The Queen, with a flush of pink amid the whiteness of its flowers; and Lady Dyke, one of the stellate forms, appeared to us the cream of this lot, which occupied almost a table alone. A silver Banksian medal was awarded. A group that came from Messrs. Cannell and Sons, Swanley, was chiefly made up of the pyramidal forms, the well-grown plants being in good character for the occasion. Princess Eva, white; Fern Leaf Lady; Miss Irene, of reddish hue; and Lady E. Dyke were all good. In this lot the plants were in less numbers and varieties, the groups well displaying the perpetual flowering and their values as decorative subjects. There were some semi-double forms, but these were not as meritorious in their way as the purely single kinds. Silver Banksian medal.

Messrs. James Veitch and Sons, Limited, Chelsea, had a nice array of their hybrid *Rhododendrons*, among which were *Exquisite*, yellow; *Cloth of Gold*, rich yellow; *Aphradite*, white; *Minerva*, golden orange; *Multicolor*, Mrs. Heal; and *Numa*, rich carmine-red, were very noticeable; the same firm contributing a fine batch of *Coleus thyrsoideus* a notable species from Central Africa, having thyrsoid racemes of flowers of a singularly bright and lovely rich blue. Not only does this rank among the finest of blue flowered plants in winter time, it is also a free and profuse bloomer, and a plant, therefore, both by its size, easiness of culture, and floriferousness that should be largely grown at this season of the year. Silver Banksian medal was awarded this capital lot of plants.

Mr. T. S. Ware, Feltham, sent a pretty lot of the earliest flowers of the year, including the ever-flowering *Primula Forbesi*, with lilac blossoms in great numbers; *P. floribunda*, and the very pale primrose-coloured kind *P. f. Isabellina*, which is a capital companion to the original; *Gaultheria procumbens*, with scarlet fruit, showing its value at this time; the silver-grey rosettes of *Saxifraga longifolia*, and the ruddy leaves of *Galax aphylla* are all interesting now. Irises, naturally, were to the front. *I. stylosa* and *alba*, *I. persica purpurea*, *I. bakeriana*, a most charming kind; the yellow *I. Danfordiae* dwarfest of all; and in reverse order, as one of the boldest and vigorous, is *I. Heldreichi*, a plant for everyone who gardens at this season of the year. Its colour or its varied hues and the breadth of its flowers are each in turn attractive and full of interest. Some of the large *Elwesian* Snowdrops, the pretty *Anemone blanda alba*, the golden cups of *Eranthis*, all tended to one end—viz., to attract and interest not a few. Curiously enough, a flowering plant of *Scabiosa caucasica* was shown with four blooms, which is remarkable at this time of year. Some good pots of *Cyrtanthus intermedius* were also shown. Silver Banksian medal.

Another lot of early flowers came from the Messrs. Barr, Covent Garden. There were noticeable many kinds of *Lenten* Roses, some twenty odd varieties of these being shown, of which Dr. Hogg, rich plum; *Lutescens*, greenish yellow; *Afghan*, Prince, dark, and *Olympicus*, purple, were the more distinct. Charming pots of *Crocus*, particularly good being *tomasiianus*, and for this kind very large blooms, also *Colchicum libanotum*, with lilac flowers, many pots of *Snowdrops*, the white and sulphur, &c.; *Hoop Petticoat* *Narcissus*, and a variety of *bowls*, in which the *Roman Hyacinths* were growing among stones. Thus treated these plants suggest considerable usefulness, particularly as room or table ornaments of a good type. A few sprays of the winter *Heliotrope* *Petasites* fragrans were also shown.

Messrs. Jackman and Son, Woking, sent a small group of hardy things in flower, such as *Hyacinthus azureus*, a charming lot in a pan; *Narcissus calathinus*; *Iris sindjariensis*, with smoky blue flowers and large foliage; *I. bakeriana*—*I. reticulata* the fine typical form of this plant; *Daphne Blagayana*, with white heads of fragrant flowers and *Cyclamen libanoticum*—a capital plant for winter work. These, with *Freessias* and some *Narcissus* in pots and a fine bluish tree *Paeony*, made a pleasing display.

The most modest of the hardy plant exhibits was that from Messrs. Wallace, of Colchester, and consisted entirely of early Irises, such as *I. bakeriana*, *Danfordiae* (yellow), *Heldreichi* (very fine), and a species as yet unnamed, very distinct, however, in the richly coloured stem supporting the flower, and charming withal.

Mr. J. D. Lambert, Moor Hall, Cookham (gardener, Mr. J. Fulford), set up a capital lot of *Cyclamen persicum*, in red and white principally. The plants for so early a date were extremely well done, the flowers of good size, and the plants generally large and well-flowered. Silver Banksian medal.

A flower of a new *Passiflora*, called Basing Park Hybrid, came from Mr. W. Smythe, Basing Park, Alton, Hants, but was scarcely in a condition to form any opinion either of its merit or distinctness.

THE REV. PROFESSOR HENSLOW'S DEMONSTRATION.

Visitors to the customary lecture at the Drill Hall were on Tuesday afternoon last interested by hearing one of those pleasing semi-scientific yet comparatively elementary interesting addresses which Mr. Henslow too seldom gives here. Mr. Bennett-Poe presided. The lecturer had made a considerable selection of plants and flowers on which to found his discourse, and first amongst these there came under notice Messrs. Veitch and Sons' beautiful Java hybrid *Rhododendrons*. The first species was introduced here from Sumatra, and these East Indian plants differed widely from the American family. The original species was named *jasminiflorum*. The next species came from Java, and the two were intercrossed by Mr. Veitch, of Exeter. These produced a yellow variety, and soon after a beautiful pure white was evolved. Then the race was taken in hand by Mr. Heal at the Chelsea Nursery, and the product was the singularly beautiful and varied varieties now on show. Of

these a lengthy pedigree was given that would have great interest for hybridists and little for the general reader. Several interesting instances were given of the prepotency of one parent over another, in one case especially the male being so prepotent that the product showed no trace of female influence. There was exhibited a very fine new hybrid, the truss and flowers large and bright yellow in colour, which has been appropriately named by Messrs. Veitch, Edward VII. This was the product of an entirely new cross of two quite genuine species. The little yellow *Aconite* next came under notice. It was said to be of the lowest scale of plants botanically in existence. It could not be said to have developed any corolla, its petals really being its calyx, but golden yellow. It was also deficient in stamens and pistils. *Hellebores* were used for illustration in great variety as furnished by Messrs. Barr and Sons. These, on the other hand, had many stamens, and at their bases what may be described as honey pots, to get at which the bees were attracted. Petals were elaborated by Nature out of stamens principally, and the whole organs showed graduation in development. In one case petals were evolved out of filaments. Some hybrids of the Christmas Rose shown were interesting as exhibiting variety, produced by crossing; but the colouration so far was not of striking or attractive character; but in a botanical sense these crosses were very interesting. A new *Snowdrop* from Smyrna named *Whitleyi* was closely allied to *Elwesi*, which it much resembled. It was very early. Many other remarks were made.

KIDDERMINSTER.

THE local horticultural society starts the century with renewed vitality, and a wise change in its habitat. Its affairs appear to be in the hands of energetic young men with heads screwed on the right way, and its membership is intelligent, enthusiastic, and increasing. On the very first night of meeting in the new quarters thirty-two candidates were proposed and admitted as members. Mr. Crump, an expert in the cultivation of fruit, who came from Madresfield Court to give the first lecture in the new meeting place, was rewarded by a large audience. He had before him men fully capable of profiting by his experience, and to whom his words were most valuable. In the course of his address he briefly touched upon a point which affects consumers and producers alike—the difficulty of profitably disposing of the fruit produced when Nature is in a lavish mood. There is great need of co-operation and organisation among the growers of a district for this purpose. It is a grim paradox that we should be paying hundreds of thousands to foreigners for fruit at the very time when fruit equally as good is rotting in our own orchards because it does not pay to gather it.

BECKENHAM HORTICULTURAL SOCIETY.

AT the Church House on January 25 Mr. Thorn, F.R.H.S., in the chair, a paper was read by Mr. H. J. Chapman, gardener to Mr. R. J. Measures, Camberwell, on *Cypripediums*. In opening the meeting the chairman said he could not refrain from alluding to the great loss the nation had sustained in the death of Her Majesty the Queen, who adorned the Royal Horticultural Society as its patroness. He also mentioned what tremendous strides horticulture had taken during her most glorious reign. The lecturer then gave the history, formation of the flower, natural habitat, and cultivation of the Lady's Slipper. Mr. Chapman had previously arranged a very handsome collection of coloured plates, which were of great assistance. Several questions were asked and ably answered, after which a vote of thanks was passed to the lecturer. Mr. George Day, gardener to Mr. Simonds, brought cut blooms of Orchids in variety. These were greatly admired.

CARDIFF GARDENERS' ASSOCIATION.

A MEETING took place on Tuesday, January 22, Mr. F. G. Treseder, F.R.H.S., in the chair. Mr. J. J. Graham delivered a lecture, entitled "The Chrysanthemum in 1899-1900." The lecturer dealt chiefly with the Japanese section upon growing, exhibiting, and staging. A slight allusion was made towards the single varieties for decorative purposes. A lengthy discussion followed concerning this popular flower. A hearty vote of thanks to Mr. Graham brought the proceedings to a close.

WIMBLEDON GARDENERS' SOCIETY.

THE monthly meeting of this society was held on Monday, in St. George's Hall, Mr. W. Thomson presiding. The number of members is still increasing, and has reached seventy-three. The paper for the evening was upon "Carnations," and was contributed by Mr. McLeod, of Dover House, Roehampton, one whose success in cultivating these plants is sufficient to ensure a sound practical paper. Dealing first with the Malmesbury varieties, and speaking of the several attempts made at Dover House to obtain a healthy stock, one or two different trials were made with plants obtained from a distance, and which were received in most cases with no apparent signs of fungus, but it invariably soon appeared and the stock would again be ruined. These failures were much discussed amongst many gardeners at the time, and suggested remedies also failed, but close observation as to time of its appearing and the state of the surroundings, atmosphere led to the advocacy of drier surroundings, fully justified by the fine plants exhibited by Mr. McLeod at Richmond a few years ago. The layering, potting, and general treatment were fully dealt with. The use of XL All Vaporiser to assist in keeping them clean was very strongly recommended. The cultivation of the border and winter-flowering varieties was fully dealt with, useful cultural details being given in each case. A list of about fifty of the varieties which were most successful at Dover House was given. A slight discussion followed, and votes of thanks to the chairman and lecturer, who promised to give another paper, brought the meeting to a close.

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THE MERITS OF OWN-ROOT ROSES

WE express no opinion ourselves as to the merits of own-root Roses, but it is an excellent subject for discussion in our pages. It is an interesting question as to whether own-root or grafted or budded plants are the most satisfactory, and the following notes from one of our leading rosarians deserve attention. We hope other rosarians will express their opinions too.

"If one approaches this subject fairly much can be urged in favour of Roses upon their own roots, although the extensive cultivation of the seedling and cutting Briar as stocks has somewhat modified the arguments of the 'own-root' advocates.

"The points in favour of own-root Roses as against budded plants may be summed up as follows: (1) A longer life and a greater resistance to sharp weather; (2) No alien suckers; (3) More successional shoots during summer and autumn; (4) Suitable for all soils where Roses will grow at all.

"I am convinced that if properly planted at the most favourable time it is almost impossible for own-root Roses to wear out. Are there not masses of the common monthly Roses growing in the gardens of Great Britain to-day that are the picture of health and improve in vigour with age? Well, these are all on their own roots, for I never yet heard of any one budding the common monthly Rose. Look again at the acres of that grand old Rose, General Jacqueminot, grown exclusively for market! Why, one can tell to a plant those that are budded and those that are from cuttings! Indeed, many of the large market growers will have none other than own-root stock of this Rose on their place. Do we not see the same beneficial result with the old blush Moss Rose, likewise grown by the acre, every bush being doubtless upon its own roots? I think this is sufficient argument in favor of having all garden Roses upon their own roots. In referring to garden Roses I have in mind more especially the beautiful Ramblers, the Austrian and Penzance Briars, the Mosses, the Damasks, the Monthlies, the Rugosas, the Gallicas, the Albas, the Cabbage Roses, the Hybrid Chinese, and the many delightful species. All these are, as it were, fixtures, and they can all be easily raised from cuttings or layers.

"Now I do not know a single exhibitor who is in favour of own-root Roses, and for this

purpose plants upon some stock are certainly desirable, although I have cut good show blooms from tiny own-root plants barely ten months old. If the Manetti stock or Briar cutting stock be carefully prepared, and all eyes save two or three at top removed, Roses will flourish on them for many years. But I would like to ask those who are unfriendly to own-roots, Have they ever taken up their budded plants after they have been planted two or three years? If so, have they not found a large number with quantities of roots emanating from the Rose itself at the junction of stock and scion? Many good gardeners even cut away the old worn-out Manetti stock, and replant the bush that in future will be supported by roots of its own. Therefore, before these exhibitors condemn own-root plants they should be sure that some of their particular plants are not getting most support from roots of their own. The author of 'The Book of the Rose' says, at page 137: 'It is a fact that Roses on their own roots do not grow so well or flower so well as those which are budded on stronger rooting stocks.' Has he ever tried them? I have seen Captain Christy, Baroness Rothschild, Dr. Andry, Ulrich Brunner, and Roses of that type throw up quite as strong wood as any that were budded; and as to not flowering so well, if he means that they do not blossom so simultaneously he is right, but, as I said before, it is the almost unceasing production of new growths from the base of the plants that make these own-roots so valuable. I was reading somewhere about an experiment made with that lovely shaped Rose Coupé d'Hebe. A budded specimen was planted, and one own-root planted against a wall. In a few years the own-root plant had covered the wall, whereas the budded specimen was gradually dwindling away. We in this country scarcely understand own-root Roses. Doubtless a valued correspondent of THE GARDEN, Mr. A. Herrington, will tell us something about them in America, for our American friends have entirely eclipsed us in growing own-root Roses under glass. Mr. Herrington gave some useful hints upon this subject in THE GARDEN of March 27, 1897, and his more extensive experiences would be welcome.

"The extra expense in the production of own-root Roses is against their freer use. Many choice kinds must be struck under glass, and consequently grown in pots. But if the latter are planted out in May and June I can assure all who are anxious to try a few that they will be surprised at the growth made during the

summer. I have seen own-root plants, the cuttings of which were taken from forced plants early in March, make larger specimens in one season grown under glass than a grafted plant would make under the same conditions. In my opinion, all Roses on own-roots should either be planted in October, or the work deferred until March and April for outdoor plants, and May and June for pot grown ones. They should also be given a liberal supply of good potting bench compost, to enable their fine roots to start away unchecked. I would urge planters to exercise patience, and they will be rewarded in the near future.

"As regards there being no alien suckers from own-root plants, is not that something to be thankful for? If it be true that own-root Roses are suitable for all soils where Roses will grow at all, surely that again is a strong point in their favour. Many cannot grow the seedling Briar, others find the Manetti unsuitable, but I believe that own-root Roses may be adapted to any soil by employing reasonable methods in preparing the latter.

"The advocates of own-root Roses often remind us that a severe winter would tell considerably in their favour, but I do not attach much importance to that contention. We have the means of earthing up-budded Roses, which practically ensures them against total destruction; but should we neglect to earth up, then I imagine the 'own roots' would score."

NOTES OF THE WEEK.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will take place on Tuesday next, in the Drill Hall, Buckingham Gate, S.W. The various committees will assemble at noon, as usual, and at three o'clock the annual general meeting of the society will be held at the society's offices, 117, Victoria Street, Westminster, S.W.

Examination in Horticulture.—The Royal Horticultural Society proposes to hold its annual examination in the principles and practice of horticulture on Wednesday, April 24. Candidates wishing to sit for the examination should make application during February to the Secretary, Royal Horticultural Society, 117, Victoria Street, Westminster.

Royal Caledonian Horticultural Society.—The secretary, Mr. P. Murray Thompson, informs us that he is again issuing associates' tickets, which entitle gardeners and certain others, on payment of 2s. 6d., to be enrolled as associates and to receive a season ticket admitting to both of the society's shows to be held during the current year. The number of gardeners who avail themselves of the half-crown ticket is

yet comparatively small. Now a new inducement is to be tried, viz., allowing gardeners to become members, with a voice in the management of the society, at an annual payment of 5s. It is hoped that this will have the effect of largely increasing interest in this old society.

National Rose Society.—With the kind permission of the treasurer and benchers of the Inner Temple, the metropolitan exhibition of the National Rose Society will be held this year in the Inner Temple Gardens instead of at the Crystal Palace. The exact date of the show in July is not yet definitely arranged.—EDWARD MAWLEY, Hon. Sec.

The Gardens, Sandringham.—Many illustrations are given in the special memorial number of *The Ladies' Field* of the gardens at Sandringham. Sandringham is not merely interesting as the Norfolk home of our King and Queen, but possesses gardens of much charm, and, needless to say, they are splendidly maintained.

Calanthe Oakwood Ruby.—In our description of this beautiful *Calanthe*, shown at the Drill Hall meeting of the Royal Horticultural Society on January 29, we omitted to state that it was exhibited by Mr. Norman C. Cookson, Oakwood, Wylam, whose head gardener is Mr. William Murray.

Camellias in the open.—Camellias grow and flourish here outside unless frost nips the buds. My trees have been out for years, and grow very well.—C. M., *Dunningwell, Millom, Cumberland.*

Camellias in the open.—The finest double white Camellia I have ever seen was grown in an old cart shed, open in front, with a glass roof. From this I have known seventy dozen picked perfect blooms cut in one season. The shed was used for carts, and the Camellia tree was the favourite roosting place for the fowls. This tree was neglected, allowed to become a mass of scale, and was cut down some years ago by the farmer in whose shed it grew. We have planted them out, and for a time they did fairly well, but they would not stand a severe winter here, in addition to the fact that rain spoils the flowers sufficiently to make them not worth cutting. One of our neighbours planted out several which had grown too large for his houses, and the result was the same. If they are to be planted out in this climate they require overhead protection; the frost alone does not appear to damage either trees or flowers, provided they are kept moderately dry in the winter.—THOMAS FLETCHER, *Grappenhall, Cheshire.*

Mr. Robert Tait, jun.—In the February issue of *The Entomologist* there is an interesting article from the pen of Mr. Robert Tait, jun. (of the firm of Messrs. Dickson, Brown, and Tait, Manchester) upon forcing *Agrotis Ashworthii*. Mr. Tait, who is an ardent entomologist, thus opens his observations: "After failing for two years in succession I have again been successful in forcing *Agrotis Ashworthii*, and have been able to get the perfect insect to emerge in exactly nine weeks from the hatching of the ova."

Flowering of *Iris tingitana*.—Your correspondent, who mentions on page 70 that he can flower *Iris tingitana* without difficulty, does not give sufficient clue to the general gardening public to indicate the part of the world from which he writes. I have always taken much interest in the flowering of this bulb, which is perfectly hardy with me in Cheshire, and increases fast; but in twenty years I have only had one flower on it, though I have tried every kind of soil. I have attributed the failure to want of hot sun. Perhaps the climate of Camperdown may be especially sunny, but I have exhausted my usual means of trying to find the place, viz., the "Official Postal Guide" and "Bradshaw," and fail to find that Camperdown has either a post-office or a railway station in the United Kingdom, and I therefore cannot discover what county it is in. If it is the place near Dundee from which a Scotch nobleman takes his title I should be lost in wonder.—C. W. D.

An early-flowering white *Rhododendron*.—One of your correspondents lately enquired about a white flowered *Rhododendron*

which bloomed in January. She may possibly mean one we have had over twenty years in this garden flowering at the present time and called *Mundulum*. It originally came from a nursery in the neighbourhood, and is not uncommon round here. A few days ago I brought in some buds showing colour, and they have fully opened in water in the house; but there were several heads of bloom quite out in the bush, and I merely gathered the others for safety against frost, which almost invariably comes to spoil the flowers at blooming time. In mild seasons this variety is quite lovely, and is covered with large heads of blossoms of the palest pink, which seem quite white when fully out.—CLARA MYERS, *Dunningwell, Millom, Cumberland.* [The flower-truss kindly sent with this interesting letter fully bears out our correspondent's description.—Eds.]

***Thibaudia acuminata*.**—Though now relegated to the genus *Cavendishia*, but with the same specific name, this plant is far better known under the cognomen of *Thibaudia*, which it has held since its introduction in 1868, but not uninterruptedly, for another of its synonyms occasionally applied is *Proclesia acuminata*. It is a loose-growing shrub, clothed with dark green leathery leaves, pointed oblong in shape, and about a couple of inches long. In their young state they are more or less flushed with pink. The vaccinium-like flowers, which are borne in clusters at the points of the shoots, are tubular in shape, about 1½ inches long, and in colour bright red tipped with greenish white. Like those of many of their allies, the blossoms are of a thick wax-like texture, and present the appearance of being varnished. Before opening the flowers are enclosed by large reddish bracts, which remain for some little time before they drop. In this country they are not sufficiently bright in colour to be very conspicuous, but in its South American home (the mountainous districts of Colombia and Ecuador) the plant owes a good deal of its beauty to them.—T.

An uncommon plant.—The species figured is very uncommon in gardens, although it was introduced as long ago as 1851 by Messrs. J. Veitch and Sons, of Chelsea, by whom it was shown at the meeting of the Royal Horticultural Society on January 15 last; its flowers are quite waxy, ribbed, and creamy white veined with red.—T.

Persimmon in fruit in South Devon.—On a southern wall, in a sheltered South Devon garden, interesting for the number of rare plants, shrubs, and trees that it contains, a Persimmon has borne and ripened fruit in the open during the past season. I had the opportunity of tasting a fruit a few days since and found it ripe and palatable, and certainly, to my mind, superior to a Medlar in flavour. The fruit was about 3 inches in diameter and of a dull red colour. In the same garden a small tree held to

be *Acacia dealbata* was in flower in the open, but I fancy that in this case, as in others in the south-west, *A. affinis* is grown as *A. dealbata*. At the same time I was shown a curious freak of Nature which had occurred in a bed of Princess of Wales Violet, namely, a flower stem which at two-thirds of its height divided into two portions, each being terminated by a perfect bloom.—S. W. F.

Wallflowers in pots.—Pots of well-grown Wallflower plants look as well as small shrubs, and last throughout the winter and spring. If more plants are potted than are wanted for immediate use, so that the pots can be changed every week or two, they will make handsome plants for the dwelling-house. It is as pot plants for the window balcony when the summer flowers are taken out that I especially value them, and they last till the summer flowers are put in again. The plants must be the same year's seedlings, and should



AGAPETES (THIBAUDIA) MACRANTHA.

have been pricked out and had the tops pinched out in the summer to make them dwarf and bushy. Great care is necessary in the potting, as little earth being shaken off the roots as possible; after being potted keep well watered for a few days. One or more small sticks should be put to each plant to keep the wind from loosening the roots by twisting it. If great care is not exercised in all these particulars the plants will droop a great deal for a week or two after being potted, with the result that the lower leaves will turn yellow and fall off, thus leaving bare stems instead of leafy ones. It is best to pot them in damp weather for this reason. The plants should not be more than a foot above the top of the pots, unless they are proportionately bushy, as they grow a good deal taller when they are coming into bloom.—ALGER PERES.

The purple and red Vitis.—For rich colouring few plants are superior to the *Vitis*, of which *V. purpurea* and *V. Coignetia* are among the best of the section. The older one, *V. purpurea*, is so well known that I need not describe it at length, as many grow it under the name of the Claret Vine, this name being common on account of its rich colouring. It is a very handsome climber, and a beautiful object if not cramped or neglected. Last summer in the southern part of the country I saw this variety in an open garden supported by a few poles and growing in a natural way. It was used as a dividing screen between two gardens, and answered the purpose thoroughly. The Japanese species, *V. Coignetia*, is also very beautiful in the autumn, having scarlet foliage, and though a less robust grower than the older form is very beautiful. This grows freely once it has got a good start, and the colour is quite distinct. For low buildings, fences, or walls the coloured vines are most suitable, and give shades of colour in the autumn that are much liked, but at any season when in growth the two kinds named make charming plants for the purpose named above.—G. W. S.

Hardenbergia monophylla.—Many of the New Holland plants so popular about the middle of last century are now almost lost to cultivation, and many of those which remain are not generally grown, although they are quite as beautiful, and in some cases more so, than a considerable number of our greenhouse favourites of to-day. The subject of this note is a very pretty and showy flowering plant, and grows far more quickly than some of the best of the Australian plants. It is a dwarf climber suitable for growing against a short pillar or on a stake. It makes a number of wiry branches, which in a single season grow between 3 feet and 4 feet high. The leaves are about 4 inches long, ovate, and, unlike the stronger-growing species *H. comptoniana*, are simple. The flowers, small and rosy purple, are borne, thirty to fifty together, in graceful racemes from the axil of each leaf. A variety having white flowers bears longer racemes than the type, and is a charming plant. Another variety having rose-coloured flowers is also worth growing. The latter resembles very closely a plant figured in the "Botanical Register," xvi., t. 1336, as *Kennedy monophylla* var. *longiracemosa* in 1830. Given sandy peat to grow in, plenty of fresh air, and a minimum temperature of 35° Fahr., good flowering plants can be raised in eighteen months from seeds.

Dædalacanthus macrophyllus at Kew.—Several groups of this pretty Acanthad arranged with Begonias and other foliage plants in the T. Range at Kew are a good illustration of its usefulness as a decorative plant for the stove or intermediate house in midwinter. It has been found in various parts of the Malay Peninsula—usually in forests—its head-quarters being Burma. As grown at Kew it makes plants 1½ feet to 2 feet high, with several strong growths. The flowers are in dense spikes from each leaf axil at the base to the apex of the shoot, the lower spikes being 8 inches or 9 inches long, gradually becoming smaller, and terminating with a few flowers at the end of the growth, the whole of the spikes making up a large, upright, loose panicle. Individually, the flowers are pale violet, 1½ inches long, with a long thin tube. Cuttings rooted in March and kept growing throughout summer in a cool airy house make better plants and produce more flowers than those rooted later and pushed on in a close warm atmosphere. In conjunction with *D. nervosus*, better known perhaps under the name of *Eranthemum nervosum*, a nice variation in colour is made to the various shades of red, yellow, and white, common to the conservatory in midwinter.—W. D.

Primula verticillata.—This is a charming *Primula* for the greenhouse in winter. It bears flowers of a beautiful yellow, borne in whorls or scapes 15 inches or so high. The delicate clear yellow of the flower and the silvery tone of the foliage associate very pleasingly; the latter, more particularly underneath, is covered with a white mealy powder. *P. verticillata* is an Abyssinian plant, having been introduced from there in 1870. It is preferably raised from seed sown in February

in pans filled with finely-sifted sandy soil. Place these in a moderately warm house, cover with glass, and shade from the sun. When the seedlings are sufficiently large to handle, the best method of procedure is to transfer three of them into a 3-inch or 4½-inch pot, according to their size. Allow them to remain in the same temperature until fairly well rooted. Then throughout the summer quite cool treatment should be afforded. There is perhaps no other greenhouse plant requiring more careful attention with respect to watering than does *P. verticillata*. If an excess is given, the delicate leaves soon turn yellow and fall, thereby greatly disfiguring the appearance of the plants. The foliage should be carefully lifted up when water is given, so that it may not be damaged. All flowers that show during summer and autumn should be pinched off, thereby ensuring the production of vigorous flower scapes later. When these are pushing up an occasional application of Clay's Fertilizer dissolved in water is advantageous. These pretty plants when they are in full flower are always much admired in the greenhouse during winter and early spring.—T. F. W.

Hæmanthus cinnabarinus at Kew.—This is one of the most effective plants at the present time indoors at Kew, and it furnishes a striking example of the superiority of the planting-out system over the pot system of culture for many plants. The subject of this note is planted out on the rookery in the Nepenthes house, having for companions *Calathea*, *Marantas*, and kindred plants. In the light, well drained soil in which it is planted it has quickly made a large mass with eighteen growths, from six of which strong flower spikes are borne. The scapes are about 1½ feet high, and are terminated with large umbels of scarlet flowers. The leaves are long and arching, the upper half 4 inches to 6 inches wide, narrowing somewhat abruptly to a long slender petiole. Although *Hæmanthus* are usually given a rather long and dry resting period in a fairly low temperature, the plant under notice growing in the warm moist atmosphere of the Nepenthes house appears perfectly happy, being probably reminded of its home climate of West Tropical Africa.

HEREDITY OF ACQUIRED CHARACTERISTICS.

It may appear rather late in the day to revive a topic which was treated in THE GARDEN of September 1, but the fact that a recent attack of bronchitis, while it deprived me of my outdoor occupations and of opportunities for personal observation of plant life, has left more leisure for reading and mental digestion, a process most necessary to the reader who would make use of the researches and discoveries of others. If a man of only ordinary intelligence may without presumption venture to agree or disagree with the theories enunciated by such intellectual giants as Darwin, Huxley, Wallace, Weissmann, and the like, I do most emphatically dissent, in company with the writer of the article in THE GARDEN of September 1 (Professor Henslow), from Dr. Weissmann's denial of the heredity of acquired characteristics.

The position of the scientist must always be one of refusal to recognise any conjectural but unproved cause for existing phenomena where certain other causes, whose existence has been proved beyond doubt, supply sufficient reason for the existence of such phenomena; and until some new phenomena can be produced, for which it is impossible to account under the accepted principles of causation, they decline to search for further causes, accepting as an axiom that Nature does not as a rule multiply means for attaining the one and self-same object.

This—in plain and unscientific language—is, if I mistake not, the position with regard to the origin of species taken up by Dr. Wallace, who I believe considers that the doctrine of accidental variation, combined with the survival of the fittest, covers the whole field, and is sufficient alone to account for every variety of species in the animal and vegetable world, and who would therefore not

admit of the existence of any other origin until the necessity for it can be demonstrated.

This also I imagine was the position taken up by Huxley, and in a less degree and in a modified way by Darwin also, but Weissmann always appears to me to go beyond these in definite negation. The scientist can have no favourite doctrine. He must accept that for which he finds overwhelming evidence, and at the same time he must be prepared to give up the most universally accepted axiom of science if an accumulation of facts newly brought to light prove it to be no longer tenable, but the ordinary and unscientific observer of Nature is under no such obligations; he may have a pet theory, a favourite doctrine.

Thus, if there is a doctrine to which I cling, and which I should grieve to see disproved, it is that which Professor Henslow supports in his interesting article of September 1—viz., "The Heredity of Acquired Characteristics." The more jealous one is, however, for one's favourite doctrine, the more careful one must become as to the arguments by which it may be supported, and thus it happens that in default of an opponent whose function it would be to detect any weak link in the chain of argument, one has perforce to become "Devil's Advocate" oneself and try to see what may be said against one's own orthodox theory. In execution of this function I found several of Professor Henslow's illustrations faulty—at least to my own mind—as arguments against Weissmann, and these I will proceed to point out.

If the instances quoted are such as can only be due to acquired characteristics which have become hereditary, and cannot conceivably be attributed to accidental variation, fixed by natural or artificial selection for the survival of the fittest, then, and then only, do they become valuable for proving by the inductive method the doctrine which we desire to prove.

Now, in the case he quotes of aquatic plants nearly allied to terrestrial ones of the same genus I make the following suggestion: Supposing that one of a million seeds of a terrestrial *Ranunculus*—cast on the water by the summer breeze—which by accidental variation produces a plant with finely dissected leaves under the water, this plant, and this alone out of the million, finds itself adapted to its new position, and of its numerous descendants a certain number—and an increasing one, as in each generation the peculiarity becomes more fixed—inherits this peculiarity of formation, while all those which by reason of adhering to the type were less adapted to their novel position have died out by degrees. Now, surely such a hypothesis is perfectly conceivable, and therefore, as an argument against Weissmann, Professor Henslow's reference to these plants does not seem to satisfy that which he lays down as an axiom of the inductive method of reasoning—viz., that it should be such as make any "alternative hypothesis actually unthinkable."

That which may explain the method by which *Ranunculus* plants have so adapted themselves as to give rise to aquatic species may equally be accountable for similar changes which have taken place amongst plants of other genera which had given rise to aquatic species still closely allied to them, and though if the theory of acquired characteristics had already been proved by other means, it might become matter for argument whether these peculiarities of the aquatic plants were not attributable to that rather than accidental variation, I do not see that in default of such being the case they can be cited for the purpose of inductive evidence.

The hypothesis that these and all such peculiarities in the development of new species are due only to accidental variation becomes much more conceivable the more one realises with Wallace the enormous extent to which these variations daily occur in Nature, and the small proportion which ever come to our notice, from the fact that the vast majority of such variations produce individuals less instead of more adapted to the provisions accorded them by Nature, and therefore simply die out at once like a three-legged chicken or a two-headed calf.

Again, in the case of the many more or less

succulent plants of different families which inhabit waterless tracts of desert, may not the first ancestor of the present day *Opuntia* or *Euphorbia* which approximated at all to the present type, have been one, which occurring by accidental variation happened to have its cells containing moisture unusually developed, and that thus when all its relations died through a sudden or gradual change in the climate, it alone survived to perpetuate its own fortunate peculiarity?

Thus, again, is it not conceivable that all the *Sterculias* of Australia may have succumbed to a drought of unprecedented severity, except one fortunate individual, which, by what we call a "freak of Nature," had an enlargement near its base, where water had accumulated during the wet season, which served to maintain it through the drought when all its less fortunate relations died?

The wonderful adaptability under Nature's laws of the individual plant to its conditions and environment is, of course, beyond dispute, but what we want is definite proof that the peculiarities thus assumed by the individual for its own preservation are actually transmitted to its descendants.

The other examples cited by Professor Henslow, at any rate, suggest more legitimate arguments in support of our behalf. While accidental variation and artificial selection are sufficient to account for the existence of our large-rooted biennial culinary vegetables, the case he alludes to, of the length of root in Radishes, &c., seems to present possibilities for obtaining absolute and incontrovertible evidence on this much-vexed question.

If it can be proved (a) that these plants by their natural adaptability to the conditions under which they are grown, do, as a matter of fact, generally, or at least frequently, increase the length of their root in dry and light soil—which seems probable enough in view of the greater depth from which they must seek moisture—and (b) that the seedlings from such long-rooted plants do, as a matter of fact, in any large proportion exhibit a tendency to follow the habit of their parents in this respect, even though themselves transferred to damp or holding soil, then the fact will supply the very best evidence that I have ever seen put forward of the heredity of characteristics acquired through external conditions and environments.

Meanwhile, whether in this or any other field of experiment, in either the animal or vegetable world, any careful observer who can produce fresh and conclusive evidence of the truth of this hypothesis will be doing untold service, not only to the academic student of biology, but still more to the earnest humanitarian, whose hopes for the regeneration of his own species are bound up in this doctrine, and who trusts that, whereas at present, the criminal begets criminals, the drunkard begets drunkards, and intellectual ignorance and moral weakness or turpitude beget their like, a time may come in the far future when the physical, mental, and moral training of the young—not the School Board education of to-day—may result in young men and young women arriving at an age when they enter into matrimony with a "*mens sana in corpore sano*," with their acquired characteristics—physical, mental, and moral—sufficiently established to be transmitted to posterity, in increasing ratio of geometrical progression from generation to generation through long days to come. . . . A dream indeed, but why should it not come to pass?

H. R. D.

THE FERN GARDEN.

FERN CULTURE AND PROPAGATION.

IN the culture of Ferns, as with all other plants, the nearer we can approach the conditions under which they grow wild and luxuriantly the greater will be our success and the fewer our disappointments. In the introductory matter relative to each species we have indicated their special habitats, likes, and dislikes, and therefore here we need

only briefly refer to general principles. Ferns are survivors from a period when the earth was doubtless warmer, cloudier, and damper than now; our coal formations have been bequeathed to us by Ferns and their kin, and undoubtedly we are indebted to the same source for all our present wealth of trees and flowering plants. Hence, although many species in tropical and sub-tropical climes have adapted themselves to hot and even dry positions, the great majority still affect situations away from hot sunshine and risk of continuous drought, and naturally, in a comparatively moist climate like Britain, the species native thereto have been evolved to fit it. Consequently, it is in woods, shady lanes, and secluded glens that we find our Ferns at their best. Thus, the first thing is to avoid an excess of sunshine. The next thing is to avoid wind, not merely on account of the drying nature of some winds, but far more because the friction set up between the fronds is bound to seriously damage them, especially when we are dealing with some of our finest cut varieties. Thirdly, drought must be avoided at the roots, and the more humid the air the finer the development. On the other hand, the more light we can give the better, since light is with Ferns, as with all vegetation, absolutely necessary; and as regards drought, drainage, as we have repeatedly stated elsewhere, must be attended to, as a stagnant soil means disease and death to the Ferns implanted therein. These are the fundamental principles of success, and now to other considerations.

First and foremost, we strongly advocate single crown culture as far as possible, that is, keeping a Fern to one centre of growth, and not permitting it to form a crowd by means of its offsets. The shuttlecock section of Ferns, or those which send up their fronds in a circle round a central core, are very apt to develop young plants from the bases of the fronds outside the circle, and these if left alone speedily assume adult size, and in so doing jostle their parents, mix up their fronds together, battle for existence underground with their roots, and, as a result, all the individuals to a certain extent are dwarfed, while the consequent crowding of the fronds detracts from their beauty and grace. A single crown kept so by persistent removal of such youngsters will have fronds double the size, and with their varietal characters doubly enhanced, so that a magnificent symmetrical circle of heavily-tasselled 4 feet fronds replaces an unsightly 2 feet clump of greatly inferior character. With many Ferns this eliminating process eventually results in a non-production of further offsets, but in others the central crown itself splits gradually into two, and in this case it is necessary to wait until they get quite independent, when they can be divided with the aid of a knife and gentle pressure. Ferns with creeping roots, such as the *Polypodies*, are obviously not open to such treatment, but the simple fact that they travel prevents that struggle for existence at the roots, and all that is needful is to plant them in pans instead of pots and so facilitate their rambles and help their development.

PROPAGATION.

Obviously a simple means of propagation exists in these offsets we have alluded to. Each one, if carefully detached, will be found to have its own little bunch of roots, and all that is needed is to plant them in good compost and leave them alone to establish themselves, and so with the larger established crowns. Many varieties, especially of the Shield Ferns (*Polystichum*), bear bulbils or little plants on the fronds, and these only require layering to take root. The best plan is to sever the frond and peg it down entire until the youngsters make a start; they can then be lifted and cut apart for separate potting or planting. Ferns with creeping root-stocks are easily propagated by simply cutting into pieces, each piece consisting of a growing tip, a frond, and its respective bunch of roots. Finally, pieces of old crowns, carefully cleansed from all dead portions and inserted in soil under glass, will often develop young plants from latent bulbils. The old bases of Hart's-tongue fronds do this freely, each piece producing a clump of youngsters.

SPORES.

Undoubtedly, however, the propagation of Ferns through their spores is the most interesting way of all. Apart from the immense number which can so be obtained, certainly at some sacrifice of time, there is always the chance when dealing with varietal spores of getting something new and so contributing to the advance of the cult. The chief thing here is to start well by only sowing good things. For the beginner the Lady Fern, Male Fern, and Hart's-tongue are perhaps the easiest to raise, though the Bracken (*P. aquilina*), if a good tasselled or other variety be sown, is the quickest to reward the sower with typical plants. Starting, then, with any one of these, we shall find in the early autumn, at the back of the fronds, patches or lines of brownish powder, containing the spores. Cut off a piece of a frond so furnished and lay it on glazed paper in a warm room, and in a few hours we shall find the paper apparently stained brown in similarly shaped patches. This brown stain is really the spores themselves, which have been shed from the capsules, and if we scrape a tiny pinch off and put it under a microscope we shall find an incalculable number present, possibly a million or so, and therefore quite enough for a beginner to start with. We have now the material; the next thing is to deal with it so as to transform it into Ferns. Experts do this in various ways, but our practice is as follows: We take a small 2½-inch pot or shallow pan, with a hole for drainage, and nearly fill this with ordinary Fern compost, first putting in some crocks covered with a little moss to admit of drainage, and on the top of this compost we sprinkle some little lumps of loam. We now take a kettle of boiling water, and, placing a piece of paper on the soil to prevent washing up, saturate it repeatedly until the water flows out scalding hot at the bottom. The soil is now sterilised, all spores of fungi or moss, or eggs of insects are killed, and the coming Fern spores have a fair field to start with. When the pot is cold scatter a tiny pinch of the spores evenly and as thinly as possible over the soil, recollecting that even this tiny pinch must inevitably mean far more Ferns than are wanted. Cover with a piece of glass, after putting on a numbered label agreeing with the register which you ought to keep, place the pot in a Wardian case or somewhere where it will not dry out or get worms into it, and leave it severely alone. We usually do several such pots at a time and bed them in fresh coconut fibre in a box or larger pan, covering the whole with one sheet of glass. This much simplifies matters and obviates risk of drought, as the fibre can be moistened from time to time in case of need without meddling with the pots. In a few weeks in the growing season a faint tinge of green will pervade the surface, and this will eventually grow into a mass of little green scales, which are what are called the "prothalli" or first stages of Fern life. If not too thickly sown these will grow to a quarter of an inch across, and by that time probably little fronds will be pushing up here and there amongst them, by which time the sowing may be chronicled as successful. If they are crowded, or previously if the sowing has been too thick and the scales are cramped, a larger pan should be prepared as before and sterilised with boiling water, and into this little patches may be pricked an inch apart. After the plants have appeared it is simply a question of more and more room, i.e., pricking out again and again until they become individual established plants. Meanwhile the beginner will very likely have been puzzled by the appearance of wrong Ferns, i.e., Ferns other than his register justifies the existence of, which is explained by the fact that Fern spores are carried some distance and settle on other Ferns, so that in sowing, however carefully, these alien spores get sown too. Meanwhile, the time for discoveries has arrived, as the distinctive characters show themselves, and these should be pricked out and kept separate, while—and this is important—inferior or defective ones should be ruthlessly thrown away. No selective cultivator is worth his salt whose heart is too tender in this respect; he must be a perfect Herod, and massacre

the innocents remorselessly if he aims at a good collection. Some time since we saw a once choice collection in the Lake District, whose owner had died, after leaving a number of such innocents in his garden to see what they might turn out. Result, a wilderness of mongrels, which had completely choked out the good ones. Moral: If a Fern is defective in its first four or five fronds—Verdict: Dustheap. C. T. DRURY.

OROBANCHE SPECIOSA.

AN INTERESTING PARASITE.

THOUGH the flowers of this interesting plant are of quiet colours, they are gorgeous compared with other hardy species of its parasitic family. The best specimen I have grown was 3 feet 8 inches high, coming into bloom at 6 inches high, and bearing sixty-five flowers in long succession. That plant, however, was fortunate in having a Bean all to itself as its entertainer.

The flowers, of creamy tints, and more or less streaked with dullish violet, are arranged in tiers or "flats" of four or five, with occasional stragglers between.

When the flowers have all turned to many shades of brown, and the stems are fallen flat, the plants may be stored for seed. This is very minute, and will not be shed till the pods are dried.

To ensure the growth of this interesting parasite, I have found it best to grow three or four Beans in a 7-inch pot, and when they are two or three leaves high, and their roots well round the pot, to sow the Orobanche seed pretty thickly over the surface, keeping it damp.

Before the Beans are pot bound, I plant them out with the ball of soil unbroken. Bean roots under such circumstances, being not difficult to meet with, not far to seek, a company of Orobanche heads will appear during July. Any Bean, however, if allowed to get into flower before the Orobanche is sown, is liable to obtain such a start as to fill, if not ripen, its pods before the parasite can mature itself, and so both host and guest perish together.

An Orobanche seed expands itself in a delicate "prospecting" root, and when no Bean fibre is within range the little organism dies away. Otherwise, it develops a sort of excrescence upon the root attacked, and becomes the swollen base of an Orobanche stem, where also there are a few discontented terrestrial fibres that soon stop short.

FRANCIS D. HORNER.

THE FRUIT GARDEN.

LATE PEARS

THESE are few Pears after Christmas is over. Growers know how these fruits differ in diverse soils, and though success may come with earlier kinds, there is a scarcity at this season. Take the well-known Beurré Rance. This variety is not at all satisfactory here. In many gardens it bears well, but in others the fruits do not ripen as well as one could wish, and crack badly in some soils. Recently half a dozen varieties were staged at the Royal Horticultural Society's meeting, and Beurré Rance was among the number, but compared to others it was poor. This shows that soils cause great difference of quality and cropping. The following varieties are our most useful Pears for the winter supply, and one or two are not so much grown as their merits deserve.

PRESIDENT BARRABE.

This Pear is not much known, but it is a favourite in the eastern counties, as Mr. Allan, of Gunton

Park, Norwich, has shown it well on several occasions. No kind can compare with it at this season. So far it has cropped freely on cordon trees, and promises well in bush and pyramid form. It ripens well, being less gritty than so many late Pears. I do not know its origin, but the name suggests that it comes from the continent. It was one of the few new Pears that came to the front when prizes were given for flavour by the Royal Horticultural Society. I have given it first place on my list as a winter Pear; the fruits are above medium size, and last year kept good well into February.

NOUVELLE FULVIE.

Few Pears are better than Nouvelle Fulvie for use from January and later. I am aware that in certain soils they ripen earlier than one could wish at this season. This variety was staged well quite ripe in December, but the fruits were from a warm wall. Our fruits from pyramid trees are just ready; this shows the value of growing late Pears in different positions. Nouvelle Fulvie has been nearly forty years in commerce, and even now is not much grown. I am not surprised, as it will never find favour with exhibitors as far as its appearance goes; its shape is irregular, and some

grows fairly well in different parts of the country, and on the Quince stock it fruits freely.

LE LECTIER

is a very fine winter Pear. It has been recently described in THE GARDEN; it is a valuable winter variety, a constant bearer, and the fruits are of first-rate quality, its season being from January to March.

OLIVIER DES SERRES.

This old but delicious Pear comes next on the list. Though not a large fruit, it is one that we cannot afford to ignore. The fruits are sweet, melting, and have a rich vinous flavour which many kinds lack at this late period. The fruits are somewhat different from those of other kinds, being rounder; indeed, more like Apples in shape, the skin much russeted, and no matter in what form it is grown it appears to crop well. Our best fruits are produced upon cordon trees. These, freely thinned, give finer fruit, though it is only fair to add the longest keepers are from bush and pyramid trees.

There are other kinds, such as Easter Beurré, Beurré Rance, and Bergamotte d'Esperen, but though late they do not give a profitable return.



OROBANCHE SPECIOSA.

may term it rough, but it is a delicious fruit when in season, and the latter point is the one most deserving of notice—we have so few good Pears in midwinter. Our best fruits, as regards size, are grown on a west wall, but our latest are from pyramid trees in the open. The latter, gathered as late as possible, keep well into February when given cool storage.

JOSEPHINE DE MALINES

is a later fruit than the one noted above, but even this Pear, which is supposed to be in season from now until April, was shown in fine condition by Messrs. Veitch, Limited, Chelsea, at the early January meeting of the Royal Horticultural Society. The fruits in question were from bush trees in the open. This season—indeed, the last three seasons, owing to the hot summers—Pears of all kinds have ripened much earlier than usual. This will, I fear, cause scarcity amongst the late kinds in a few weeks' time. I need not describe this old variety. Though it has been about seventy years before the public, it has only now received a first-class certificate. It certainly deserved that award, and it may probably bring its good qualities before growers who need late fruits. This variety also

Some that crop well ripen up badly, no matter how well grown, but, as I have previously noted, in some soils and situations varieties that fail elsewhere are excellent.

G. WYTHES.

Syon House Gardens, Brentford.

SHORT STUDIES ON PLANT LIFE.—IV.

THE DAFFODIL AND HIS KITH AND KIN.

LENT Lilies and their kind have come greatly to the fore during the latter half of the last century, and under the skilful cultivation of Leeds, Barr, Engleheart, and many others they have exhibited remarkable capabilities, which one would not have previously expected.

The existing Daffodils may be grouped as follows. Starting from our own wild species they are (1) variations in the size of the flowers; (2) variations in their form; and (3) in their colours. Then (4) there are varieties of "doubles"; and lastly, (5) the results of hybridisation and crossing.

First, with regard to size, "gigantism" and "nanism" have affected the Daffodil. So that while the largest grow to 3 feet in height, the smallest has a stalk of 2 inches or 3 inches and a minute flower. Hence four in the series are called maximus, major, minor, and minimus, like brothers at a public school.

With regard to the forms of the perianth, a good deal of variety exists in the wild state, in some places much more than others, as to the length of the corona and the character of its margin. Thus the Tenby Daffodil (*Narcissus Ps.-Nar. var. obvallaris*) has a large trumpet and a broad recurved rim.

Thirdly, with regard to colour; normally the perianth is paler than the corona, and even in the wild state many gradations exist till nearly or quite white forms have been found. In fact, the Rev. C. Wolley Dod has noticed some dozen or more points of difference in forms and colours among variations of the wild Daffodil.

Next, as to doubling. This assumes various forms. Dr. Masters groups them under at least four distinct types. The earliest known, at least as figured by Lobelius and Gerarde in the sixteenth century, consists of a mass of narrow pointed petals, on the plan of the variety *ysettensis*, but scarcely in radial rows like a rose, as the perianth leaves are in that form. They more nearly resemble "Rip Van Winkle" (*Gardeners' Chronicle*, 1885, February 21, page 240). In these there is no corona; but in others this is split up and multiplied with the perianth; hence the contrast in colour giving the names "gold and silver," "butter and eggs," &c. In these two kinds it would seem that all traces of stamens and pistil are gone, the process being precisely the same as in the double Snowdrop. If the swollen end of the stalk be dissected it will be found that the fibro-vascular cords, of which in a normal flower there would be as many as there are parts, are continually branching, and if they do so in a radial direction, when they reach the surface each becomes clothed with a perianth leaf. Such gives rise

to *ysettensis*; if they branch irregularly then "Rip Van Winkle" results.

In another kind of doubling the formation of stamens is begun, but interrupted, so that with the multiplication of parts anthers can be detected on petaloid filaments, &c.

What has been called the true wild double Daffodil has retained the perianth and trumpet in a normal condition, but the cup is full of petals, partly staminate, &c. (figured by Masters, *Gardeners' Chronicle* February 21, 1885, page 241).

Lastly, as to hybridisation. This would require a volume, but as Nature has given us varieties so has she supplied hybrids. Our *Incomparabilis* and its progeny were first begun by naturally crossing the Daffodil with the Poet's *Narcissus*; and having commenced the work and shown us what to do, our hybridists have been doing it with the well known marvellous results.

GEORGE HENSLOW.

TREES AND SHRUBS.

THREE WINTER - FLOWERING HEATHS.

ONE might wholly change the aspect of our gardens in winter by the bold artistic use of several of the Heaths of Europe, which often bloom at dawn of spring, and in mild winters cover the ground with colour as pretty as any of the flowers of summer. The first of these is the Portuguese *E. codonodes*, a most delicate, beautiful shrub, in our country flowering from December, and a great aid in southern and mild districts. It is more delicate in colour than the true Heath with its little bright buds, and is a very charming shrub. Secondly, *E. mediterranea hybrida*, which is probably a cross between the alpine forest Heath, *E. carnea*, and either the

true Heath or the Mediterranean Heath. It is quite a new and most precious thing for gardens generally, and sometimes flowers from the beginning of December far into the spring, a most delicate colour. Lastly, our old friend *E. carnea*, which has long proved its value, though it is not often used in the most effective and artistic ways. The best form of this is a very bright, vigorous plant, which is always in bloom at the very dawn of spring after the hardest winters, and in mild winters very often in showy flower.

It is needless to say more of the value of plants more precious perhaps than those of any country, hardy, easily increased, and useful in every garden.

THE HOLM OAK.

(*QUERCUS ILEX*.)

OF all the evergreen trees that are hardy in the home counties it is difficult to mention one of greater beauty than a well-grown specimen of *Quercus Ilex*. In the colder midland and northern counties no doubt it is too tender to thrive well; and even at Kew, where there are a number of really fine specimens, it has been known to lose its foliage in a very hard winter. Still, that was merely a temporary loss, and they have never experienced any permanent injury. Even in the bleakest and most open positions the species is absolutely hardy. The biggest trees have trunks about a yard in diameter. The leaves of the Holm Oak are rather like those of the Olive, although of a darker and more lustrous green, and have a greyish felt beneath. They are borne very abundantly, and the branches form heavy, luxuriant, but still graceful masses of foliage, which in the midwinter days are admirable not only for their own beauty but also for the suggestion of warmth and shelter they give.

The Holm Oak is a variable tree in such minor matters as the shape and size of the leaf and in the erect or more or less pendulous

character of the growth. The varieties with the largest leaves are *latifolia* and *macrophylla*, where they measure 2 inches or so in diameter, those of *var. latifolia* being the shorter and more rounded. In the variety *Fordi* they are much smaller and narrower but of a particularly intense and glossy green, making this one of the most distinct and handsome forms. The variety *diversifolia* is a curious cut-leaved kind with scarcely two leaves of the same outline, but it does not possess the charm of the ordinary form. There does not appear to be a named variety of pendulous habit, but specimens differ greatly in regard to this character. Some of the younger trees at Kew are of almost a weeping style of growth, whilst in others the branches are stiff and more or less erect. In trees of full size the same differences are discernible, although not to such an extent, because the branches always become more or less pendulous or arching.

Old trees of the Holm Oak produce fertile Acorns



A VARIETY OF THE MEDITERRANEAN HEATH (*ERICA MEDITERRANEA ALBA*).

in good quantity, especially after a hot ripening summer, and these furnish the best means of propagation. It is not a tree that bears disturbance at the root well, especially if this is done at an improper time. My experience of it is that a showery week in May is the best time for transplanting—that is, not until signs of renewed growth are apparent. To shift a plant that has long been growing in one position now, with all the biting east winds of an English spring to come, is to sign its death warrant. I remember a few years ago removing a specimen to fill up a gap in an avenue, in the middle of April, but it was dead in a couple of months. But although it was mid-June another was put in its place, which by that time had young shoots an inch or two long, this drooped a little for a few days, but with a little attention in the matter of watering it speedily recovered and is now a fine healthy young tree.

This Oak is one that (in this country at least) requires pruning when grown in an isolated position—that is, of course, if tall trees with well-formed trunks are desired. Unless it is drawn up by other trees around it, it seems naturally to form a large spreading bush, broader than it is high, and consisting of a crowd of stems in place of one clearly defined trunk. Such specimens may be desirable in certain positions, but they have not the beauty and stateliness of the taller ones, whose massive crowns are supported by a thick shapely trunk. To obtain trees of that type it is necessary first to obtain a single leader and to remove other rival leaders should they appear. If the tree shows a tendency to grow unduly in breadth instead of in height, the side branches may be shortened and the lower ones removed. But the chief thing is to maintain a single, well-defined, leading shoot until the tree is of sufficient height to be left to itself.

Quercus Ilex is abundant on some of the hills and lower slopes of the mountains of Southern Europe, especially in Italy. In books relating to that country it is the tree (or one of the trees) usually alluded to as the "Ilex."

W. J. BEAN.

MISCELLANEOUS.

THE COTTON PLANT.

IT is but seldom that one sees the Cotton Plant (*Gossypium barbadense*) made use of for decorative purposes, yet it might often with advantage be so employed. One cannot describe it as beautiful, nor perhaps as generally useful, but it is both quaint and interesting. When the ripe capsules burst, the numerous seeds, covered with a white fluffy substance (the cotton) are exposed. With careful watering, so as to preserve the foliage of the plants, these may remain in the stove



COTTON PICKING.

or intermediate house for many weeks together. *Gossypium barbadense* is easily raised from seed, if this in early spring is sown in light soil in a warm, moist house. The culture is quite simple. As the plantlets increase in vigour, remove them to larger pots, using a light, rich soil for a compost. For the final potting 6-inch or 8-inch pots will usually be found to be large enough, and a warm, moist atmosphere is essential throughout. Those who have not yet essayed the culture of the Cotton Plant, and perhaps have never seen it growing, should obtain a few seeds and make the experiment. It will be found both interesting and instructive. The flowers of *G. barbadense* are yellow, with a purple spot at the base of each petal. The species in question, yielding a large proportion of the cotton of commerce, is a native of the Barbadoes, whence it was introduced in 1759.

In the Southern States of America all the lower basin of the Mississippi is well suited to the cultivation of the Cotton Plant, and this seems also to suit the Southern negroes, who now work fairly industriously at it and obtain good wages. It is light work, in which the whole family can join, from the small children to the aged grandparents, especially at picking-time. Then they earn from 1½dols. to 2dols. a day, working their own hours, singing plantation songs, and generally enjoying themselves. Our illustration shows such a scene and the appearance of the bursting Cotton-pods. The whole cultivation of Cotton is a beautiful and charming sight to the lover of Nature.

In summer the plants on the Sea Islands, where the finest Cotton is raised, grow from 5 feet to 10 feet high, and are covered with yellow flowers. In August the gathering of the crop begins, and goes on until the first

frosts. Then the pods are laid to dry in the sun, and later the seeds are got out by the use of a Cotton-gin. The Sea Island Cotton is so long and regular in staple that the seeds are easily separated. The shorter and worse the staple is, the more difficult it is to get the seeds out and the lower is the price per pound.

T. H. H.

THE FLOWER GARDEN.

THE BEST CHRISTMAS ROSES.

CAN you give me some information about *Helleborus niger*? I am acquainted with their requisites as regards cultivation, but would like to know the relative qualities of the following:—*Maximus*, *angustifolia*, *St. Brigid*, *Riverstoni*, and *Apple Blossom*. Is the pink tinge of *Riverstoni* and *Apple Blossom* maintained when the plants are grown under glass, and are they as large as *Maximus*? I intend growing them under glass in prepared beds with handlights.—H., *Lewes*.

[These winter blooming evergreen plants are so valuable for supplying abundance of cut flowers during the dull season that we do not wonder that our correspondent is anxious to learn something of their differences in habit and time of flowering. By growing five or six of the best kinds it is possible to have pure white flowers from the end of October until the end of February. So far, we have never seen these plants do really well as grown permanently under glass, either in cold greenhouse or in frames, but a good gardener grew them splendidly for years in raised turf pits, in a half shady exposure, the shade being thrown from some tall trees, 20 yards or 30 yards away from 11 a.m. until about 3.30 p.m. every day. These pits were filled with fully 3 feet of good loam and peat, with leaf-mould and nodules of old red sandstone, in which the plants thrived amazingly, each clump being from 2 feet to 3 feet across, and pro-

ducing hundreds of flowers. About October, when the autumn rains began, the plants were looked over, and all dead leaves, &c., removed. A sprinkling of old wood ashes and sand was shaken over the crowns as a deterrent to slugs and snails, and then lights were placed on the pits, these being closed entirely only during very wet or frosty weather, so as to draw up and protect the blooms. The treatment the plants received was indeed precisely that of the Violet pits alongside those containing the Christmas Roses.

The main thing in Hellebore culture is to prepare the ground well. A north-western or a sheltered north-eastern border suits them equally well, but it should be trenched at least 3 feet deep, taking care not to bury the upper soil, and plenty of well rotten stable manure or cowyard manure should be worked in, after which plant strong divided pieces or young plants at a distance of 3 feet to 4 feet apart each way. They look thin at first, but soon spread and carpet the border with healthy foliage. It is as well to so plant them that frames or handlights can be dropped over them just before the flower buds appear in the autumn. We have also seen Christmas Roses well grown outside in wooden tubs and boxes, these being lifted into the greenhouse or conservatory to flower. As to kinds, the best are the following, which differ in size and habit, colour, and especially in the time of flowering.

H. niger maximus (= *H. altifolius*).—The largest of all, and one of the earliest and best to bloom. It is also hardy and of vigorous constitution. It succeeds in nearly all deep rich soils, and

should be one of the first tried in new places or under new conditions, as if it does not succeed there is but a slight chance of the others doing so. Plant 2 feet high, and strong clumps are 2 feet to 5 feet across. Flowers 3 inches to 5 inches in diameter, white or soft rose, purple behind; two to three flowers are borne on a stout purple dotted scape 15 inches to 18 inches in height. Flowers from October to January.

H. n. angustifolius.—This is a narrow-leaved slender habited form, growing rather tall, say, 16 inches, and bearing a profusion of shapely pure white flowers. The late Miss Frances J. Hope, of Wardie Lodge, Edinburgh, used to grow this kind in a long narrow or frieze-like bed on the grass, where it formed a distinct feature all the year.

H. n. St. Brigid (= *H. n. Juvensis*).—An Irish form, superbly grown in the old enclosed garden at Sutton House, Howth, County Dublin, by the late Mrs. Lawrenson, better known as "St. Brigid," and for her strain of Crown Anemones, now universally grown in most good gardens. It has pale green leaves, scarcely at all serrated, and both flower stalks and leaf stalks are of a pale apple green, and not dotted with red as in most other kinds. Flowers large, exquisitely pure white, cup-shaped, and very freely produced. It is not so hardy as *Maximus*, *Riverstoni*, and *Mme. Fourcade*, but one of the best as well grown.

H. n. major (of Bath).—This is one of the best of all the kinds, and much grown near Bath and elsewhere for the supply of cut flowers for market during winter. It yields a good supply of bloom from the end of November until the end of January or even later. It is simply a strong growing form of the common *H. niger*, and is a favourite with nurserymen and market growers, which is no bad indication of its merits as a good garden plant.

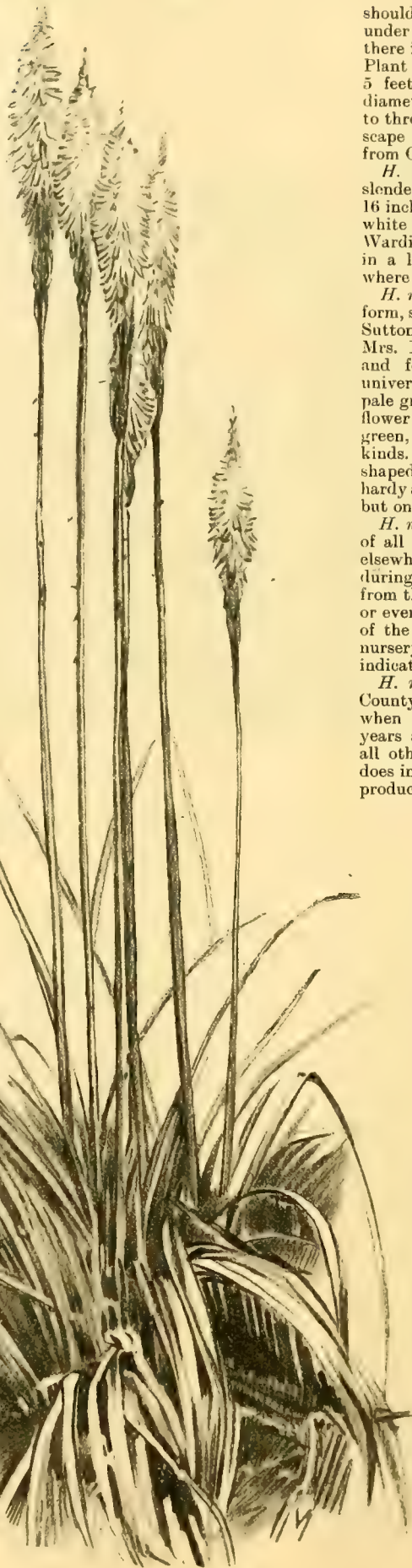
H. n. Riverstoni.—This plant originated in a County Tipperary garden, Riverston, near Nenagh, when Mr. John Bennett-Poë resided there some years ago, and set such an excellent example to all other amateur gardeners in Ireland, as he now does in England. It is a tall, strong growing plant, producing an abundant supply of flowers on tall stout apple green stalks. The leaf stalks, however, are dotted with red or purple, as in *N. maximus*, but not so densely. It is very likely to have been a seedling from *St. Brigid* or *N. maximus*, as it seems to combine the good qualities of both these varieties. Flowers large, pure white, and of elegant form and good substance. *N. maximus*, *N. Riverstoni*, and *N. major* Bath are, I believe, the three hardiest and best of all Christmas Roses.

H. n. carnea (or Apple Blossom).—This plant is tall growing, with dark stems and leaves; it is of erect habit, the petioles heavily dotted or shaded with purple-brown. The flowers are borne on tall stalks, and are 3 inches to 4 inches across, but the segments are narrow, standing wide apart. They are of good substance, however, and at their best the rosy buds and pale flesh-tinted flowers are very beautiful. There is nothing else quite like it, and the plant deserves every attention.

H. n. Mme. Fourcade.—This is of French or Belgian origin, and a fine plant, very hardy and free flowering, and its white flowers, though not so large as those of some others, are beautifully cupped and of good substance. Strong clumps, covered with a frame or handlight, go on flowering from Christmas until the end of February, and it cannot well be left out of a good collection. The "Brockhurst" or Manchester variety of *H. niger* also bears pure white flowers in abundance, resembling those of *St. Brigid*, but not so elegantly cupped in form. It is largely grown in market and nursery gardens around Manchester,

KNIPHOFIA LONGICOLLIS.

(Drawn at Kew by H. G. Moon, January 21, 1901.)



and should not be ignored. The leaf and flower stalks are both of a pale self or apple green colour, but the leaflets are more coarsely serrated than are those of *St. Brigid's* form. Now and then some distinct and useful forms may be selected from Austrian importations of *H. niger*, and considerable variety results when seedlings are raised. Everyone who makes a speciality of the Christmas Rose should cross-fertilise the best flowers on a few plants, and make a sowing of seed every year. When the seed is sown, as soon as it is ripe, say, in June, the seedlings appear above ground the following March or April. The young plants grow freely and flower from the third to the fifth year from seed. These seedling plants are most luxuriant, and yield a greater proportion of large and well shaped blooms than as a rule do divided plants, and by making annual sowings a good stock of plants is more certainly kept up than by any other method. It is worth noting that these flowers, though freely visited by bees and flies, rarely seed well unless cross-fertilised with pollen from other individual plants or varieties. It is best to get pollen-bearing flowers from a friend's garden at a distance as the late *St. Brigid* always used to do. —EDS.]

AN ARTIST'S NOTE-BOOK.

PHAIUS TUBERCULOSUS.

THE most beautiful and interesting Orchid at the meeting of the Royal Horticultural Society last week was a plant in flower of the true *Phaius tuberculosus*, as described by Petit Thouars in 1822, but only lately introduced into cultivation by M. Warpur, the Madagascar collector. Although it closely resembles the plant hitherto described, figured, and cultivated under this name, there is a very marked difference between the two, which cultivators will not be slow to recognise, namely, their behaviour under cultivation. Few who have essayed the cultivation of the spurious *P. tuberculosus* have succeeded with it, and it has received in consequence a very bad character, in spite of the great beauty of its flowers. As a breeder, however, it has proved exceptionally valuable, the hybrids *P. Cooksoni*, *P. Marthæ*, and *P. Normani* having been obtained from it. Mr. Rolfe has discovered the blunder made by Reichenbach and others in identifying the plant introduced about twenty years ago with *P. tuberculosus*. He says: "The epiphytal species known in gardens under the above name, and figured in several works, is not the original plant, and I have renamed it *Phaius simulans*, in allusion to the remarkable resemblance which its flowers bear to those of the original species." *P. tuberculosus* was provisionally named *P. Warpuri* in compliment to its introducer, M. Warpur, who holds the entire stock of it, with the exception of three plants which he presented to Kew in return for services rendered. When the plants came over in the autumn of 1899 they were small, shrivelled, and in bad health, but grown under conditions suitable for *Dendrobium nobile* they have developed into strong specimens, and many are now flowering. The habit of the plant is not unlike that of *P. Humbloti*, the pseudo-bulbs being conical, about 1 inch long, closely aggregated and sheathed when young by the folding bases of the lanceolate, pliate leaves, which are from 6 inches to 12

inches long. The scape is erect, 2 feet high, and it bears from six to ten flowers, each nearly 3 inches across; the sepals and petals pure white; the large shell-like labellum coloured brown-purple, mottled with bright golden-yellow; the front lobe paler, and bearing three fleshy yellow ridges, forming the disc; behind this there are numerous silky hairs of amethystine hue. There is little or no difference between the flowers of this and *P. simulans* as represented in the *Botanical Magazine*, t. 7307 (1893), but the two are easily separated by their pseudo-bulbs, which in *P. simulans* are stem-like. From what I know of the new introduction it is likely to prove a most valuable winter-flowering Orchid, as it is easily cultivated, free flowering, and certainly one of the most beautiful—"decidedly the most beautiful species of the noble genus *Phaius*, which is, perhaps, all points considered, one of the most striking of the order."

KNIPHOFIA LONGICOLLIS.

THIS is one of the many excellent garden plants that we owe to the enterprise of



PHAIUS TUBERCULOSUS.

(Drawn at Kew by H. G. Moon,

January 21, 1901.)

Herr Max Leichtlin. He obtained it from Natal, and in distributing it, in 1894, he described it as a probably hardy species, with tall spikes of yellow flowers, produced late in the year. It flowered first with him at Baden-Baden in 1893, when it was named and described by Mr. Baker. It flowered next with Mr. Gumbleton at Queenstown in February, 1897, when a drawing of it was made and published in the *Botanical Magazine*, t. 7623. At Kew it was first tried in the open, where it grew freely and pushed up stout flower-scapes, too late, however, to escape destruction from cold. The following year the plants were lifted and taken into the temperate house to flower, when its merits were fully revealed. It is now represented in the Himalayan section of that house by several large clumps, which for the last month or so have been a great attraction, and will probably continue such for at least another month.

Imagine a *Kniphofia* with all the vigour of growth and leaf characters of *K. aloides* (*Uvaria*), which, in a house where it receives slight protection, bears tall stout scapes of clear canary-yellow flowers (not green-yellow, as shown in the *Botanical Magazine*), and which is at its best in midwinter for at least two months. It might be grown out of doors all summer and brought into a conservatory in October to flower. In the favoured counties, such as South Devon and Cornwall, it would no doubt be perfectly happy in the open air. Mr. Veitch might do worse than devote a big border to a few hundreds of it in his Exeter nursery. Its only need is protection from frost whilst it is in flower; this afforded, it proves itself one of the best of the *Kniphofias*.

W. W.

AMATEURS' PERPLEXITIES.

NEWTOWN PIPPIN APPLES.

WILL you kindly tell me the name of some reliable American firm from whom I could import some Newtown Pippin Apple trees, as I wish to try the experiment of growing them in my garden. If you know of others who have done this, I should be greatly obliged if you could tell me what their experience has been.

E. K. HEATON.

[You can get the trees from the States. Such firms as Messrs. Henderson, 35, Courtland Street, New York, or from Messrs. Bassett and Son, New Jersey; but we do not advise your doing so, as even in some parts of the States the famous Newtown Pippin is not a success. Doubtless much depends upon the soil. Take our own country, for instance, and see how well a few kinds of Apples do succeed in a certain locality, but which fail in others. Again, look at the Kent Apples in comparison to those of Northumberland. Soil and situation tell greatly in the culture of fruit. The Newtown Pippin has been grown in this country for years, but with only partial success. Most of our leading fruit tree growers and nurserymen have given it a fair trial, but do not recommend it for general



SEEDLING WATER LILIES IN TUBS IN M. LATOUR-MARLIAU'S GROUNDS AT TEMPLE-SUR LOT, FRANCE.

culture. Some of the American kinds do better, such as the excellent Mother Apple and King of Tompkins' County. Doubtless you could obtain trees from the leading fruit nurserymen here without sending to America. The Newtown is useless in most private gardens; it grows freely, but bears no fruit.—Eds.]

BOUVARDIA LONGIFLORA.

CAN you give me a few lines of advice? I have a large stock of this, which I got after seeing it in flower in the midsummer of 1899. I grew it all last year, and never had a flower. It was in a cold greenhouse all the summer, and I gave it a little more warmth in autumn. Just before Christmas I dried the plants off, pruned them moderately, and began to water again. I am anxious to have better success this year, as it is a beautiful thing. The flowers are quite 3 inches long and 1 inch across; the leaves light glossy green. RUFUS.

[There is no doubt that your *Bouvardia* is *Humboldti corymbiflora*, which needs somewhat different treatment from the ordinary garden varieties. As your plants have been pruned back, they should be placed in a good light position in a warm greenhouse, and encouraged to start into growth by an occasional syringing overhead. Then, when the young shoots are about half an inch long the plants should be repotted, if in good condition, using pots a size larger than before. Two-thirds loam to one-third leaf-mould, and a liberal dash of sand, will form a very suitable compost, though should the loam be of a heavy nature a little more leaf-mould will be required. In potting remove all the old soil that you can without distressing the roots. After potting keep fairly close for ten days or so, till the roots take possession of the new soil; meanwhile the syringe may be liberally used. A good light position and plenty of air is then necessary for the plants, the object being to encourage sturdy growth and promote the formation of flower buds. They do not need shading; indeed, by the middle of June they may be stood

out of doors, when the earliest will soon commence to show their buds. As the pots get full of roots weak liquid manure every ten days or so is a great help, for this *Bouvardia* needs liberal feeding. As it is the stout stems that produce those fine heads of flowers, the plants should not be stopped after April. If they are placed out of doors in the summer they must be taken under glass before the flowers expand, as heavy rains at that period are apt to mar their purity. Planted out in the summer it will grow and flower well, but is more affected by lifting than the other kinds are. Cuttings should be taken in January or February, and grown on as above detailed, taking particular care in the stopping. Plants so obtained, grown in 5-inch pots, and carrying from four to six principal shoots, will form effective little specimens for the embellishment of the greenhouse. For these liquid manure should be applied regularly during their development.—Eds.]

EVERGREEN HEDGE BETWEEN FLOWER AND KITCHEN GARDENS.

IN reply to "M. D.," no green hedge is so good as one of common English Yew. It is rather slow growing for the first four years, but fairly fast after that. It can be safely planted 3 feet 6 inches high in thoroughly well-prepared ground. In your light soil we should not advise planting Yew so late in the season, although it is not impossible. September is the best time to plant this tree—any time in the month after there has been rain. The next best alternatives are *Thuya Lobbi* and *Cupressus lawsoniana*. The former is the better, but the latter the cheaper and quicker. Common Laurel, or the broad-leaved kind, or Portugal Laurel, would make a green hedge quicker than any of the foregoing. Holly is excellent, but very slow to move for the first five years. The good preparation you have in contemplation and the after watering will be greatly to the advantage of the hedge, but we do not advise the use of any

sewage, or even soapy water, for the first three months after planting. The roots must get hold and begin to grow before they can take advantage of any manurial waterings. But clear water in any dry weather and a surface mulch will be desirable.

MONS. B. LATOUR-MARLIAC'S NYMPHÆA GARDEN, FRANCE.

THE accompanying illustrations we feel sure will interest those of our readers who admire the beautiful hybrid Nymphæas raised by this successful French hybridist. We have given on more than one occasion details of his work, and an account of this from M. Latour-Marliac's pen was published in *THE GARDEN* of December 23, 1893, page 583, from whence we take the following particulars, which throw some light on the parentage of more than one hybrid:

"About the year 1879, I commenced the work in earnest by crossing the finest types of hardy and tropical Nymphæas which I had in cultivation here. These early attempts were at first negative in their results, but soon afterwards I scored an unexpected success in obtaining a hybrid with deep red flowers, the seed parent of which was Nymphæa pygmæa alba, fertilised with pollen from the flowers of *N. rubra indica*. Unfortunately, and to my great disappointment, this magnificent specimen proved hopelessly barren, and from it I obtained neither seeds nor offsets, so that, after having tried in vain to reproduce it, I gave up the task and turned my attention in another direction.

"In order to obtain plants of a really ornamental character, I considered that it was especially necessary that I should make it a point not to employ as seed parents any subjects except such as were very free flowering, and by rigorously adhering to this principle, I succeeded, little by little, by means of numerous sowings and strict selections, in raising types which were in every way improved in the form and other characteristics of their flowers. It was thus that one of these new subjects (*N. alba*) fertilised with the pollen from the American species, *N. flava*, produced *N. Marliacea chromatella*, which has achieved such a high reputation. In the following year I obtained the hybrid *N. odorata sulphurea* from a similar crossing of *N. odorata alba* with *N. flava*, and the last-named species has also been the pollen parent of *N. pygmæa Helvola*.

"About the same time two species bearing a high character made their first appearance in gardens, viz., *N. sphærocarpa*, a native of Sweden, and the elegant *N. odorata rubra*, found at Cape Cod, in North America. The sparse-flowering character of *N. sphærocarpa* (a diminutive possible sire by the side of my first-raised hybrid, which might well be proud of being the offspring of *N. rubra indica*) determined me to reject it for

hybridising purposes, and I gave all my attention to the fascinating American species, *N. odorata rubra*, which, employed as the pollen parent, with my choicest specimen of *N. alba* as seed parent, rewarded me with the sweet *N. Marliacea rosea* and *N. Marliacea carnea*. *N. odorata rubra* was subsequently the parent of the beautiful *N. odorata exquisita*, the colour of which is pink approaching to carmine. As the last-raised specimen of this first group of my hardy hybrid Nymphæas, I must mention the remarkable *N. Marliacea albida*, the flowers of which have not yet been surpassed in size by those of any other Nymphæa.

"In the year 1889 the Universal Exhibition was held at Paris, and my small collection of the above-named hybrids timidly took the road to the metropolis, to see if possibly they might attract some notice from amateurs in the midst of the plant-wonders there. Their graceful elegance, however, was appreciated, and they came back radiant with the distinction of a first prize. What a change has taken place since then! And with how much more assurance would that first collection have made the journey to Paris if they had undertaken it in company with the splendid generation which has since made its appearance!"

Since these words were written we know how many beautiful hybrid of rich and varied colouring have been raised.

NOTES FROM SCOTLAND.

THE gardening season has not yet commenced, though Nature herself has never called a halt nor done more than checked the growth of much hardy vegetation, Roses, Carnations, Daisies, Polyanthus, Violets, and such like having continued all through winter producing flowers, and in vegetables such a tender subject as the Lettuce having been fit in condition to use right from the open. Shrubs

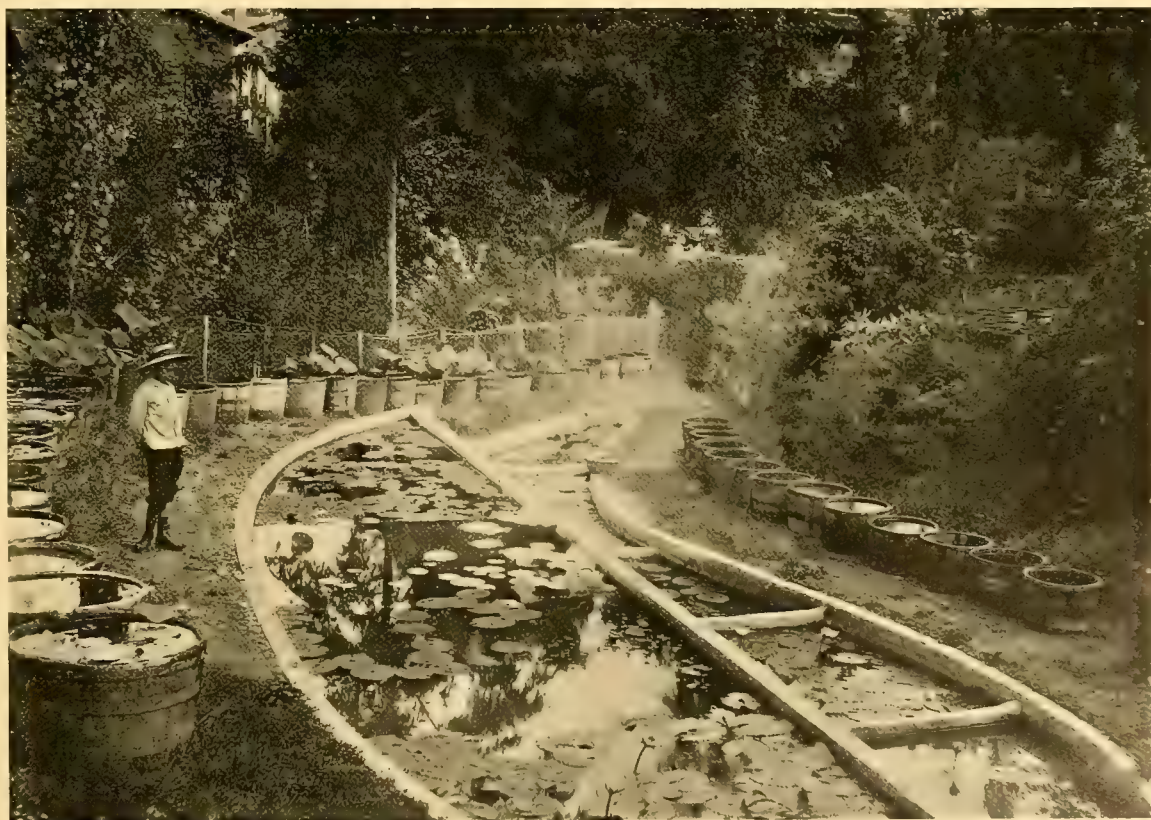
have been peculiarly floriferous, some perhaps not beneficially so, as in the case of Rosemary and *Escallonia macrantha*, which cannot be so fine at the period they ought to flower. In the case of *Arbutus Unedo*, *A. Croomii*, *A. angustifolia*, *Rhododendron dahuricum*, *Laurustinus*, *Garrya*, *Lonicera fragrantissima*, and *Jasminum nudiflorum* it is a decided advantage to have them in the dead of winter, inasmuch as they are really in fine condition, nor could we expect them any better nearer spring time.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

The only matter of importance before the annual meeting was the decadence in membership and the best method of checking its advance, 100 members less having been noted in 1900. Two or three years ago a very low-priced subscription was placed before gardeners, but it does not seem to have produced any good effect, as the meeting came to the conclusion to revert to the original one. For nearly a century this society has done splendid work for practical horticulture. It was unable for want of means to secure and carry on an "experimental" garden as its promoters intended, but as a fosterer of high-class gardening there is no room to doubt the high position it has occupied ever since its commencement, and the corresponding influence for good it has exerted on gardening throughout the three kingdoms.

THE SCOTTISH HORTICULTURAL ASSOCIATION.

There has been an important change in the personnel of the management of this thriving society, Mr. Robert Laird having retired from the secretaryship, which was handed to him by his brother, Mr. D. P. Laird, some years ago. There is no doubt that the wonderful success which has attended this association of Scottish gardeners, and especially so as regards the Chrysanthemum shows, which in a few years after their inception came to be recognised as among the most important in the United Kingdom, has been due to a very large extent to these two, so far the only secretaries the association has had. They have also been fortunate in obtaining papers of a high class



WATER LILIES IN TANKS AND TUBS IN M. LATOUR-MARLIAC'S GARDEN.

for the meetings which are held monthly, and which at first formed the original programme of the association. On Mr. Peter Lonie has devolved the duties up till now discharged by one or other of the above-named gentlemen. Mr. Lonie was for long gardener and general manager of the Marchmont Estate in Berwickshire, and, in addition to the experience resulting from a long period spent in the pursuit of his calling, he has always taken a great and practical interest in kindred subjects such as meteorology, and for many years has been one of the best known members of the Berwickshire Naturalist's Club. Under the pilotage of Mr. Lonie we may therefore conclude that the Scottish Horticultural Association will have fair and prosperous sailing. The past year, it may be added, was one of the best in the history of the association. It cannot, however, be expected that it can progress with leaps and bounds as it has done in the past, since now it has reached a high water mark.

B.

LUPINES IN THE WILD GARDEN.

THE Lupines represented in the illustration are tree Lupines, mostly white and yellow, and in the beautiful garden of Mr. G. F. Wilson at Oakwood. Mr. Wilson kindly writes to us about them as follows: "The Lupines grow in a field which we took into Oakwood Garden, in which we made wide ditches, at the sides of which we grow *Iris Kämpferi*, the field being of good soil. The soil dug out of the ditches and thrown up on banks was used for herbaceous plants. It is on there that the Lupines grow and seed themselves about."

GARDENING OF THE WEEK.

KITCHEN GARDEN.

PUSH forward all digging and trenching as rapidly as possible, so that by the end of the month the principal plots will require little more than their final preparation for the reception of seeds.

The open winter through which we are passing is favourable to the preparation of light soil, but where the land is heavy a great deal of work still remains to be done.

PARSNIPS.

Ground intended for Parsnips having been deeply trenched and manured in the autumn should be forked over as soon as dry enough to be trodden and allowed to remain rough until towards the end of the month, when a sowing may be made in drills 18 inches apart and 2 inches deep for general use. Where extra fine roots are desired holes should be made with a crowbar 2 feet apart and not less than 2 feet deep and 6 inches wide at the surface, to be filled with finely-sifted soil and well-decayed farmyard manure, with the addition of a little road sand. Press moderately firm, and sow a few seeds in each hole, covering lightly with the same soil. Thin as soon as large enough, leaving the best plant, and one as near the middle of the hole as possible. Little after attention

will be necessary other than hoeing and keeping clean. The best varieties for this purpose are Maltese and Sutton's Tender and True.

PARSLEY

may be sown now on a border with an eastern aspect in drills 15 inches apart and 1 inch deep. Cover with finely-sifted soil to assist germination, which generally takes in from four to five weeks. As soon as the plants are large enough they may be thinned to 9 inches apart; this will give much better returns than if the seedlings are allowed to remain in the rows as they come up. An occasional dusting with soot will increase the vigour and improve the colour of the plants, which, in consideration of the important place they occupy in the daily vegetable supply, should receive more liberal treatment than they generally do.

CUCUMBERS.

If seeds were sown as advised early in January the young plants will be almost ready to put out, previous to which the house should be thoroughly cleaned, the brickwork whitewashed with hot lime, and sufficient sulphur burned to destroy any insect pests that the brush may have failed to reach. When the hotbed is in and mounds of soil placed 4 feet apart and allowed to remain long enough to become warmed through, the young plants may be put out and carefully staked until they reach the trellis. The temperature of the soil must be noted, and a few holes bored in each mound to allow the escape of rank steam before 90° are registered. A light, rich soil and an abundance of atmospheric moisture are necessary for the successful cultivation of Cucumbers. The soil may be composed of three parts turfy loam and one part rough leaf soil for the spring months, and as time advances the leaf soil may give way to well-decomposed farmyard manure. Frequent top-dressings of the same soil will greatly assist the development of the fruit, and an occasional dusting of soot will improve their colour. Moisture must never be allowed to become deficient, or

stunted growth and insect pests are sure to follow, and it is of great importance that the foliage should be fully exposed to the light and not allowed to become crowded one week and the next thinned to such an extent that the plants receive a check. Light shading may be given with advantage on very bright days. The admittance of air will greatly depend on external conditions, and must never be given with the idea of reducing the temperature of a house. In the spring very little will be required if the atmosphere is kept in a moist condition. When the plants begin to develop their fruits a liberal supply of water must be given and weekly applications of weak liquid manure. Do not exhaust the plants by excessive cropping or leave deformed fruits hanging to spoil the appearance of the crop. Syringe twice daily in bright weather, and shut the house up as early in the day as can be done with safety. A night temperature of 70° with a rise to 75° by day in dull weather, and 80° or 90° in bright sunshine will suit them well. Sutton's Every Day is the best variety for exhibition, and Dickson's All the Year Round for growing in flat pits.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

FRUIT GARDEN.

PRUNING HARDY BUSH FRUIT TREES.

I THINK few trees more profitable than the dwarf or bush Apple on the Paradise stock and the Pear on the Quince, though it is only right to add that a few kinds are not trustworthy, needing double grafting, and some Pears do better on the Pear stock. If the trees are well established we always prune in the summer, then there is now little pruning to be done. By summer pruning it must not be thought we cut hard back, we merely leave a few eyes or buds; it is more in the nature of thinning out. Light is thus admitted to the fruit, colouring the same and also ripening the wood that is retained for next season. There will



LUPINES IN MR. G. F. WILSON'S GARDEN AT OAKWOOD.

now be some shortening back of a few weak spray growths and main shoots, and as regards the latter a great deal depends upon the strength of the trees, the variety, and the space at command. Any growths overlooked, such as cross shoots, should now be cut out, and always endeavour to keep the trees open in the centre.

CLEANSING WALL TREES.

This is an important matter at this season and is at times overlooked, with the result in the growing season there is much trouble with insect pests. Now is a good time to syringe old walls, first detaching the trees, and in the case of the Peach or Nectarine or others with weak wood tie the branches in bundles and give them support to keep free from the wall. Then thoroughly saturate the latter with insecticide. I find the well-known Gishurst compound still one of the best for this purpose, and as a winter dressing for the trees for scale it is excellent. In a few gardens I have seen the trees were infested with mealy bug even on open walls, and cold does not appear to exterminate the pest. Here I would advise washing with Bentley's soluble petroleum, doing the work in dry weather. Scale is equally difficult to get rid of unless all portions of the bark are well covered by the dressing given, and with badly infested trees I would advise, firstly, to clean the walls as noted, then paint the trees (that is, all the old wood) after syringing, and to make the paint adhere firmly, I have mixed a small portion of lime and sulphur with the Gishurst, when the latter has been made soluble. Peach and Nectarine trees are subject to the attacks of black aphid, and this is more common with old walls or those with wide copings, and when the foliage is tender remedies cannot be applied sufficiently strong to kill the pest without injury to foliage.

NAILING WALL TREES.

This work so far has been done under favourable conditions as regards weather. I notice in a few cases the buds of the Apricot are beginning to swell on south walls, so that all nailing should be brought to a close as early as possible, and where protection is given it will be well to prepare the material for placing in position. We leave our Peach and Nectarine trees both as regards pruning and nailing as late as possible, as the longer the wood is away from the wall the better the bloom; but I explained this in an earlier calendar. On the other hand there is little pruning to do as regards Peach trees if the old fruiting wood and spray growth was removed in the autumn so that nailing can be deferred till the last moment. Cherries bloom early, and should be finished at an early date; in some gardens these trees die back badly, and it is necessary to closely examine and cut away decaying portions and often rearrange the whole tree. Another important point with these fruits is to keep the spurs as close to the wall as possible; now is a suitable time to shorten back or reduce the number, but in the case of fan-trained trees, and if these are not crowded, lay in young growths freely. All ties to main branches should be sufficiently loose to allow of expansion without cutting; tarred twine is often used, and it causes the trees to gum badly if at all tight. Now is a suitable time to remove exhausted soil close to the wall, and replace with rich top-dressings.

G. WYTHES.

Syon House Gardens, Brentford.

THE FLOWER GARDEN.

LAWNS.

A WELL-KEPT lawn is acknowledged to be one of the principal features of an English garden, and it deserves greater attention than it usually has. Weeds will appear in the grass, and unless they are promptly stopped patchiness instead of smooth and velvety turf is the result. Weeding with forks made specially for the purpose is the best method of cleaning, but as the spring advances less labour can be spared for this work, and it generally happens that a great portion of the affected area goes untouched except for a few spasmodic efforts. Now is the time to begin, and the work should be carried out systematically. Boys or women are

well suited for this work, and to assist in the thoroughness of the operation they should be provided with a line which can be stretched across the lawn to form a boundary beyond which they should not wander at each crossing. Four feet is a convenient width for each worker to cover at a time, and the line should be moved forward to this distance as each course is finished. Where, owing to poverty of the soil through constant mowing and sweeping, Daisies are too numerous to be dealt with by weeding, a good surface dressing of manure and fine soil should be put on, and the grass allowed to grow without mowing for a few months; the longer it is left unmown the more perfect will be the remedy. The grass growth chokes out the Daisies, and ultimately a good grass bottom is again formed. All lawns should have periodical dressings of manure in some form or other to recuperate them. If artificial manures are used (I do not recommend them) they should be got on early, so that they may be washed in before drying winds and hot sunshine cause them to burn the grass. Natural manures are far safer. In places where the grass is thin a dressing of basic slag will encourage the finer grasses and clover; it should be in the form of the very finest possible powder, and should not be used in conjunction with any manure containing ammonia. Roll the lawn on all available occasions whenever the weather allows.

BEDDING PELARGONIUMS.

Where the staging arrangements of the houses available for working on the stock or bedding plants are good, the system of potting off the latter singly in small pots is the most satisfactory, and this should now be carried out, dealing first with the strong growing green leaved forms and then the weaker variegated ones. In some cases, however, pots are not so satisfactory as boxes, and this is especially the case where the only houses at disposal are big vineries and fruit houses without stagings.

All gardeners know the difficulty of getting bedding Pelargoniums out with a good lot of roots attached to a ball of soil when the boxes have been crocked in the usual way. This difficulty disappears when a thick layer of half-decayed leaves or a similar layer of Mushroom bed manure is used in lieu of crocks, for the plants root well in this and may be lifted out in excellent condition when bedding time comes. The boxes should have bottoms made with narrow pieces of wood placed well apart instead of the ordinary bottom with a few holes bored through it. Give the plants, after boxing or potting, a little extra warmth such as may be found in a vinery recently started.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

INDOOR GARDEN.

CALADIUMS.

THESE when well grown are amongst the most serviceable subjects where house decoration is carried out. The corms being duly shaken out of the sand and cocoanut fibre, may be cut into portions to meet the local requirements; no fear need be entertained of any failure from this treatment if the after conditions are attended to, i.e., rubbing the wounds well over with ground charcoal, and exposing the corms so treated for a whole day to the sun. Small pots and a compost of peat, leaf-soil, and sand in equal parts should be used; a propagating case should where practicable be requisitioned. C. Louis A. Van Houtte, C. Cardinale, C. Marquis of Camden, C. Gaston Chandon, C. Duke of York, C. Pantia Ralli, C. Major Joicey, C. Mrs. McLeod, C. Northcote, C. Lord Derby, and C. Sir Julian Goldsmid are the best for general purposes.

TUBEROUS-ROOTED BEGONIAS.

The tubers must now be looked over and the double varieties started, as these take longer to produce flower than the single forms; use shallow seed boxes, with a layer of sifted leaf-soil and sand in the bottom in which the tubers should be placed, slightly pressing them down as the work proceeds; leaf-soil to be fairly damp when used, no water should be given, but a temperature moderately moist is decidedly favourable.

FIBROUS-ROOTED BEGONIAS.

Cuttings where increased stock and shapely plants are required must not be overlooked, as these strike readily; the present time should be seized upon to augment the existing batch. Begonias of the ornamental leaved type, of which B. Arthur Mallet may be instanced, should be similarly treated; these if struck now and pushed on soon become useful sized plants, which are most serviceable on account of the rich velvety tone of colouring in the foliage. B. M. Hardy comes next to B. Arthur Mallet in point of merit, and even stands the season better. Other varieties of good habit and character are B. Naomi Mallet, B. Lucy Closon, B. Marie Louise, and B. Decora.

AMARYLLIS.

These showy subjects are always admired, and particularly so when in flower in the early spring months; a few bulbs in pots should be put into heat. Where there is a good number a dozen or more may be placed in at a time; if in want of fresh soil the necessary move should be given now; rough fibrous loam will form the principal element in the soil used, while a part of leaf soil or spent Mushroom manure and sand will comprise the remainder; a liberal dusting of dissolved bones and soot should be added at the rate of an 8½-inch pot to a barrowful of soil. Moderately firm potting is recommended.

LILIUM HARRISI.

The stock of this being well started, a night temperature of 50° to 55°, with a rise to 65° by day should be given. The syringe also plays an important part here, and the growths must be liberally sprayed over several times daily. Late stock of the well known L. longiflorum giganteum will also be pushing ahead, and conditions similar to the foregoing should be afforded, save only that a temperature ranging 5° lower should be aimed at. Liliams of the lancifolium type must be at once put into pots, as they are apt to shrivel if kept too long out of soil; that as recommended for Liliam Harrisi should be used and the pots plunged in ashes in a cold frame; a slight sprinkling of the plunging material should be placed over the surface of the pot, but no water must at present be given.

J. F. McLEOD.

Dover House Gardens, Roehampton.

ORCHIDS.

WORK IN THE HOUSES.

WITH the lengthening days a new life seems apparent in most plants, and Orchids are no exception to the general rule, yet it would be too risky to act simply on the assumption of a permanency of open, growing weather because we have been and are now passing through a period of comparatively warm and genial weather. Watering must still be done with the greatest care, and the water used with moderation. There are a few plants which benefit by being repotted very early in the season, unless they have been attended to late in the autumn. These are the *Erides*, *Saccolabiums*, and *Vandas*, all plants with a woody stem of a peculiar nature, and which, as a rule, we find in much more luxuriant condition on the continent than we see them in our English collections. There they are invariably repotted either in October or at this time of the year, and the reason for doing so, given by an eminent and most successful French grower of these neglected plants, is perfectly reasonable. He says that the advantages derived from the benefits accruing to the plants through their repotting being done at the time stated are of sufficient interest to attract the attention of all growers and lovers of these beautiful plants, which bloom at a season when flowers are not over plentiful in the Orchid houses. He states that, through the operation being done during the cool weather there is very seldom indeed any loss of leaves, whereas it is usual for several pairs of the basal leaves to turn yellow and fall off when this work is done during the summer, and when it is much more difficult to keep the atmosphere constantly moist, for one must not lose sight of the fact that plants such as these, which are not provided with pseudo bulbs, are easily

harmful by disturbance caused to their roots by repotting, and it is necessary to counterbalance the same by placing or keeping the plants for some time after the operation in a comparatively cool, moist, and close atmosphere. Whether the same treatment would produce the same results in our climate one cannot say for certain, and without giving it a fair trial; but whoever has had the good fortune to see the Comte de Germiny's plants at Gouville, those of the Duc de Massa at Francouville, of the late Duc d'Ayen at Champlâtreux, of the late Comte de Nadaillac at Passy, of the late Mme. Fould at Saint Germain, of M. Lebatteux at Le Mans, and even in the very midst of Paris the superb plants under the care of M. Opoix at the Jardin du Luxembourg, where Vandas are in flower all the year round, must recognise and admit the fact that when grown in such a way *Ærides*, *Saccolabiums*, and Vandas are well deserving the attention of our growers and amateurs. Rightly or wrongly, our French *confères* attribute their success to their mode of culture. Plants of

ONCIDIUM LANCEANUM,

which have grown luxuriantly and have well filled their baskets with roots may also now be repotted in a light mixture of two parts sphagnum and one part fibrous peat, but care should be taken to give them but little fresh food at a time. These plants do best in a moist position in the Indian house.

Phalænopsis schilleriana and *stuartiana* are now beginning to bloom, and their roots should be kept constantly moist. It is also advisable to see that a few plants which, as a rule, are somewhat delicate or difficult to keep through the winter are placed close to the light, and this applies specially to *Odontoglossum Phalænopsis*, *O. niveum*, *O. blandum*, and *O. vexillarium*. There is now, or there should be, in the cool house a quantity of plants showing flower spikes, special attention is therefore required to prevent the irreparable damages which may be caused by insects of all sorts, but principally by slugs and snails, which must be carefully watched. Many are the methods employed and recommended for the destruction of these pests. One of the best means of trapping them consists in placing among the plants showing flower a few *Adiantum cuneatum* with young fronds, and wetting them overhead in the evening; the slugs will not fail to make these plants their headquarters for the night, when they can be caught and destroyed. The temperature in the Indian house should be 62° to 68°, that of the Cattleya house 58° to 65°, and that of the *Odontoglossum* and *Masdevallia* house 50° to 55°.

S.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

JANUARY FLOWERS IN THE SOUTH-WEST.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In spite of wintry skies and drenching rain-storms, varied by a few days' frost and comparatively heavy snowfall, that disappeared as if by magic, a few expanded blossoms are even now to be found in the open. In Mr. T. H. Archer-Hind's garden at Coombefishacre in mid-January the Winter Aconite was lighting up a grey afternoon with its blooms of bright gold, the petals, in the absence of the sun, curving inward and giving the flowers a globular shape. *Anemone apennina* had expanded the first of its blossoms, and a few flowers of *A. coronaria* showed here and there, but *A. blanda*, which in varied tints formerly brightened the early days of the year, has unfortunately been destroyed by moles. The *Arabis* was commencing its season of prodigal blossoming, and *Colechicum libanoticum*, as well as another species procured under the name of *C. decaisneanum*, but evidently wrongly christened, were in

flower. Of the Crocuses, *C. aureus*, *C. Imperati*, *C. Korolkowi*, and *C. Sieberi* were blooming, and *Clematis calycina* (or *balearica*) was starting a wall with its greenish white, purple-spotted flowers. The charming little Diamond Cress (*Ionopsidium acaule*) was covering a breadth of border with a mantle of its closely-set, tiny flowers, violet and white in tint. In some gardens this lovely annual propagates itself freely from self-sown seed, and year after year presents a delightful picture from early in January through the spring months, being apparently, at least in the garden alluded to, indifferent to frost and snow. In some soils and localities, however, it does not renew itself spontaneously, but its merits well repay the little trouble of seed-sowing. The attractive bulbous Irises, *I. bakeriana* and *I. histrioides* were in flower, as well as *I. persica purpurea*, a form that for beauty does not compare with *I. persica*, while *I. stylosa* and *I. stylosa alba* were both in full bloom. The general collection of Lenten Roses, which Mr. Archer-Hind has for many years been crossing with great success, having obtained many beautifully spotted forms, had expanded their first blooms, but will not attain the zenith of their display for another fortnight or three weeks. Some, notably one bearing a rather small, purplish flower had, however, been in bloom since Christmas. A coloured plate of Lenten Roses from Mr. Archer-Hind's garden appeared in the number of THE GARDEN for June 4, vol. liii., but the pure white form, which is grown at Coombefishacre in great perfection, is not included in the plate. *Gentiana acaulis* showed a stray bloom or two, and *Narcissus minimus* was also in flower, as were *Polygala chamaebuxus* and its more ornamental variety *P. c. purpurea*. *Scilla sibirica* was bearing the first of its blue bloom-spikes, and *Sternbergia Fletcheri* was in flower, while on lawns and grassy slopes the Snowdrops were perfecting their white bells. The Periwinkles, though not in profuse flower, were all bearing bloom, a large plant of *Vinca acutiloba*, trailing over a wall above the water, holding a couple of dozen or so of its grey-white flowers. A bush of the delightfully perfumed *Lonicera fragrantissima*, growing in an angle of the walls, bore its leafless shoots studded with odorous white flowers, and the great specimens of *Erica codonodes*, 6 feet and more in height, were becoming whiter with blossom with each succeeding week. *Cryptomeria elegans* in its bronzed, winter foliage formed a conspicuous object on the lawn.

S. W. F.

APPLE NOTES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I notice a disposition among nurserymen to substitute the New Northern Greening for the old one in their lists and recommendations. As far as my experience extends I think this is a great mistake. I have now had three years to test the New Northern Greening, and have found it to be not at all a good keeping Apple. As I write (January 22) I have not a single one sound out of the entire crop. The other, on the contrary, with similar keeping treatment, is in perfect condition as regards soundness, and will not have come to full colour and ripeness for another month. It always keeps with me till the end of June and very frequently till the end of July. I am inclined to think very highly of an Apple I got from Mr. Merryweather called Clarke's Seedling. In appearance it much resembles New Northern Greening, though it is richer in colour, both in its golden-yellow ground or large crimson flush. It is in splendid condition, not a speck upon it, and I should say would keep well into March.

Cox's Orange Pippin deserves, no doubt, all that Mr. Thomas says about it in a good climate, but it is evidently a delicate variety. With me, though in the warmest part of my garden, it bears sparsely, and the fruit is small and not particularly well shaped. Golden Pippin quite beats it here. Although planted in a bad position, it bears regularly and abundantly fruit half as large again as Cox's Orange Pippin, and in the estimation of several Apple fanciers, to whose palates I have submitted the two varieties, quite equal to it.

I therefore think that those who have cold, wet climates would do well to cultivate Golden Pippin. I have about as bad a climate as most people.

County Caran.

D. K.

DIOSPYROS KAKI.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—A short time ago I should have agreed with Mr. T. Shaw when he writes about *Diospyros Kaki*—"It is extremely doubtful whether this addition to our list of fruits will ever pass the stage of a botanical curiosity"—but I am of rather a different opinion now after spending a winter in Italy. I was told there that it had come largely into esteem during the last three or four years, and whereas it had been neglected for a long time it now holds a very good place as an article of commerce in the fruiterers' shops. Certainly it is sold in large quantity, and at Florence, Milan, Rome, and other places it is commonly to be seen.

Mrs. Ross, of Poggio Gherardo, near Florence, who seems to have an exceptionally good knowledge of this sort of thing, recommends *Kaki Giboushiu* beyond all others, and in accordance with her advice I got three or four bushes at a nursery garden in Milan which are now doing quite well in the Isle of Wight.

Canon Ellacombe has grown *Diospyros Kaki* for more than twenty years in Gloucestershire, and often gets fruit from it.

I rather expect that its excellence, at any rate for jelly and such like purposes, is comparatively unknown, and that the demand for it will increase, perhaps suddenly, as was the case in Italy, as soon as its virtues are found out.

H. EWANK.

St. John's, Ryde, Isle of Wight.

WOODLAND PATHS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Your recent article on woodland paths suggested many pretty variations of the same idea. I have had one in use some years across a Rose bed to enable me to reach all the Roses. It is very simply formed and highly satisfactory. A few inches of ground were removed and the space filled up with cinders; these were gradually covered with loose stones, carried there when picked off the beds; then a small mossy Saxifrage, very bright green and compact in growth was planted at each outer edge of the irregular path. This has now covered the whole path, and bears the necessary treading well. Throughout the winter it keeps greener than the lawn, and in early spring shows a lot of bright red in the young shoots before the white flowers appear. It has been so pleasant that I have bordered many Rose beds the same way, hoping to have the walks that run between them similarly grown.

R. M. S.

THE SCARBOROUGH LILY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I see that the origin of the name of Scarborough Lily is not as well known as I had supposed, I therefore send a few lines of explanation. This fine Lily was grown in many a sailor's cottage window in Scarborough long before it was known elsewhere. I remember well when a boy, somewhere in the early fifties of the past century, that a Manchester man visited our greenhouses and saw this now well known Lily in full flower. He was so astonished at it that he asked me to take him down into the old town and show him where they grew, and he bought every bulb that the fisher folk would sell him, offering them 1s. 6d. to 2s. 6d. for each bulb, much to my astonishment, who, boy-like, thought that a flower common at home must be common elsewhere.

The story goes that long ago a Dutch ship returning from the Cape foundered in a storm off the Dogger Bank, where the Yorkshire fishermen, then as now, resort to catch cod and other fish. A Scarborough smack rescued some of the crew, and brought them ashore and took care of them. One of the men had a bulb of this Lily in his jacket pocket; he had intended to give it to his wife in Holland, but in gratitude for the kindness he

received at the fisherman's hands, gave the bulb to his wife as the only thing he had to offer. In due time the bulb grew and flowered, and in after years as it multiplied friends were given offsets, till the plant was quite common throughout the town when the railroad first brought the multitude to the seaside. There were no great importations of this Lily from the Cape till, I think, much later, so that the bulb was as much a speciality of the town in those days as the Guernsey Lily was in Guernsey. Hence the name of Scarborough Lily, which I as a Scarborough man hope may never be forgotten.

E. H. WOODALL.

CROCOSMIA IMPERIALIS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Allow me to call the attention of your correspondent "T. C. W." to the great superiority of *C. imperialis* over the species that he enquires about, viz., *C. aurea*. The newer kind, that is, *C. imperialis*, has been known for ten or a dozen years, and during the last half of that time it has become very popular, which fact is not at all to be wondered at, for it is a delightful plant. Though regarded by botanists as a variety of *C. aurea*, its distinctive features are very marked, for it is in every way a much larger and finer thing. The branching spikes reach a height of 3 feet or more, while the individual blooms are on strong plants fully 3 inches across, of a brilliant reddish orange on the outside and lighter within. As the flowers have rather a drooping tendency, the rich coloured exterior is more in evidence than the inside of the flower. Where there is a narrow border along the front of a hothouse many South African bulbs will flourish therein, and among the many will be included this *Crococsmia*. When the flowers develop in a sunny spot their colouring is more vivid than if at all shaded, hence if grown in pots for greenhouse decoration they should be left out of doors till the flowers are just on the point of expanding, as they are then more richly coloured than if grown altogether under glass. *C. imperialis* does not increase nearly as rapidly as *C. aurea*, and on this account and its undoubted merit it still realises a pretty good price. The corms, which are about the size of a medium *Crocus*, push out but few stoloniferous stems compared with the other, but they often travel some distance before rushing up above ground. If in pots these shoots frequently take a circular direction, and continue in this manner till they make their appearance at the edge of the pot.

T.

THE INDOOR GARDEN.

CULTURE OF WINTER-FLOWERING PELARGONIUMS.

AS your able correspondent, Mr. A. Dean, writes, there is perhaps no flower more suitable for winter use than the *Pelargonium*, both for the greenhouse and for table decoration. It may be interesting to your readers to know that two year old plants are by far the best for obtaining a large quantity of flowers, at the same time their quality being also quite as good as the blossoms of younger plants. The most successful method of culture to my mind is the following: As soon as the cuttings are taken, which should be about the second or third week in February, the plants must be gradually allowed to dry, say, for about three weeks, and then pruned rather hard. Place them in a buoyant atmosphere, and frequently syringe if about 60°, and keep rather dry at the roots, when they will break into growth. Then shake the old soil away, cut off the large roots, and put them into $\frac{1}{2}$ -inch pots, giving them the same temperature as before. If treated like this they will be found to soon fill the pot, when they will require a move into 8-inch pots—these will be none too large if the plants are successfully grown—the compost required being some good fibrous loam with plenty of leaf-soil and coarse sand together,

with a good sprinkling of bone-meal. After potting they should be placed in a frame and kept moderately warm until root action begins; then gradually move them to an abundance of air, and eventually place them out of doors entirely, and protect from heavy rain. Give plenty of water with just a little stimulant, and pinch the shoot until August. The plants may be allowed to flower from October until the middle of February. I think if any of your readers have not grown them the second year they would be more than satisfied with the result of an attempt.

Tring.

E. G.

ENGLISH AND JAMAICA PEARS.

THE AVOCADO PEAR.

THE word Pear brings up old associations. First, to take them in seasonal order, of poor Sweetwater Pears stoned or mercilessly thwacked down with stick from the tree by the dairy cottage, shared with wasps, who bit round, deep pits in the necks of the ripest. Then of Williams, whose name had not then been so curtly contracted, held more sacred as being within the four-walled enclosure of the kitchen garden. No venturing to pick off the tree here, but the chance of an occasional windfall and a modest shake to help matters when the wind had not been considerate, that



THE AVOCADO PEAR.

(Reduced to about half natural size.)

was allowable to boy morality. But the great Marie Louise was a thing entirely taboo, probably because it was picked, as such Pears are, before it was ready to eat. We in Jamaica have the word which expresses that condition; we say "full." It is that state in which good Apples and Pears are picked. Only Quarrendens and Sweetwaters are left on the trees for boys and wasps. Choice specimens of Marie Louise used to ripen in the sacred precincts of my father's room. From there they found their way to the dinner table, where they were, I regret to say, for the most part peeled. Now the best and highest aroma of this Pear of Pears lies in the skin, as you will find if, after eating your Pear, you proceed to eat the curls of peel in your plate. The other Pears of my youth were Swan's-egg, where you get the whole flavour—and very fine flavour, too—because you must eat the skin, for if you cut it off there is nothing left; and some late rough-skinned variety, I think a Beurré.

Now I live in a land where English Pears are not. But we have a Pear, too—Avocado Pear, corrupted to Alligator, so books call it; *Persea gratissima* its botanical designation. We simply say "Pear," having no other. In size and shape it is like the Duchesse of old days, perhaps a little bigger, of two colours externally, the one green, the other a chocolate-

red. It is borne on a tree which in old age reaches the stature of the Ash. Bountifully it yields its Pears, and hangs them out to hungry men, cats, dogs, and pigs between Michaelmas and Christmas. Taking a knife and running it down the long way, it meets the central round seed, which occupies a large space, so that the Melon-like sections are but some half-inch deep in flesh. My father used to speak of buttery Pears. Here is butter indeed, yellow at the centre, taking a greener tinge as it comes to the rind. Lay your fork transversely to the section, press it till it meets the rind, and flake off a sufficiently small mouthful. Fresh butter is it, or, rather, fresh solidifying cream, slightly flavoured with Walnut when the fresh Nut lends itself to easy peeling, perhaps with a hint, too, of Asparagus. Excellent with salt, it may by the luxurious be deemed better accompanied by vinegar and oil, yet too oily in itself to demand the latter. Perhaps its richest flavour is discerned when eaten with bread and honey. Truly a vegetable or fruit, for one knows not which to call it, fit for the gods!

Jamaica.

W. J.

RIVIERA NOTES.

THERE are now so many early-flowering bulbous Irises to be found in nurserymen's catalogues that

I hope some one who has tried to grow them all will give his or her opinion of their value. Here *Iris alata* decidedly comes first in every way for beauty, size, colour, and freedom; but I never saw it, personally, in beauty out of doors in England, so I dare not say if it is really to be depended on in a moderately hard winter. Has any one persuaded the pretty little yellow *Iris Danfordiae* to flower a second time, I wonder? As yet I have not grown it at Nice. Or the very pretty *I. rosenbachiana*, which is pretty certain to do well.

An *Iris* that charms me greatly, and is not much known, is *Iris Vartani*. One hears often of *I. Histrio* and *I. histrioides*, neither of which, in my judgment, are half so dainty, for the pale clear silvery blue of *I. Vartani* recalls the first pale blue of *Forget-me-not*, while the muddled, spotted, uncertain tone of *I. Histrio* and *histrioides* can never make them really popular like the deep-coloured *I. reticulata*, which comes later no doubt, but is so delightful in an English spring. *Iris sindjarensis* and *Iris assyriaca* are different in name. I do not know if they are really distinct, all that I can say is that here the bulbs flowering under the two names are identical, and being more in the style of *I. alata*, with bold recurving leaves and good-sized flowers, are a very welcome succession to the earliest flowering *alata*. The colour, too, a pale silvery grey, is very welcome in this brilliant climate.

Tecophylæa cyanocrocus has enjoyed the daily blaze of sun; what a splendid gentian blue its expanded petals are! If only it withstands the summer heat and drought it should do well, but many small bulbs have been entirely burnt up by last July's fierce suns, and both *Tulipa saxatilis* and *T. kaufmanniana* were destroyed when planted too near the surface, though in moister and shadier soil they have done well and will soon flower again.

Illicium laurifolium, which I see M. André recommends, is a straggling evergreen shrub, redeemed by its white flowers, which appear in December, and make it an addition to Riviera gardens. Its flowers were scarcely injured by that sharp frost of a fortnight ago, for I saw a tall bush in good flower on the north side of a villa the other day and made a note of its good behaviour. It should be quite hardy in Devonshire and Cornwall, at any rate.

Cassia tomentosa is bright again, with its yellow corymbs; this is certainly a winter-flowering shrub of great value, equal in beauty here to *C. corymbosa*, and, unlike it, flowering in winter. An old plant, it must have dropped out of cultivation in England when the Chrysanthemum took the world by storm. Its pretty sprays of blossom are short-lived in water, but the buds come out for a day or two.

E. H. WOODALL.

The Drill Hall Meetings.—At a request of some of the Fellows, the council have arranged to send (in the week preceding it) a reminder of every show to any Fellow who will send to the Royal Horticultural Society's office, 117, Victoria Street, S.W., twenty-four halfpenny post cards fully addressed to himself or to whomsoever he wishes the reminder sent.

New Gardens for the Royal Horticultural Society.—The selection of a suitable site for the new gardens of the society in celebration of its centenary is still occupying the attention of the council.

Begonia Caledonia.—During the year 1900 only one first-class certificate was awarded by the council of the Royal Caledonian Horticultural Society, and that to the above Begonia, a white sport from the well-known B. Gloire de Lorraine exhibited by the raiser, Mr. John Forbes, Hawick, Scotland.

Messrs. Protheroe and Morris, 67, Cheapside, E.C., send us their register of nurseries, market gardens, farms, florists and seed businesses, and partnerships to be let or sold. These comprise businesses in London, all parts of the provinces, and abroad.

Snow on the Riviera.—Considerable damage has been done by the recent heavy fall of snow in the gardens and Orange and Olive groves of the French Riviera. Many of the Olive trees are said to be ruined, and the Orange crop has suffered severely. It is to be feared that many of the tropical garden plants are injured also.

National Chrysanthemum Society.—The next annual outing of the above society will be to the estate of Mr. A. Tate, Leatherhead, Surrey, probably in July next.

Mr. G. H. Richards has offered a special first prize of £10 for six vases of incurved Chrysanthemums shown on long stems at the November exhibition of the National Chrysanthemum Society.

India's floral tributes.—Messrs. James Carter, High Holborn, had the privilege of supplying to Windsor last week, amongst others, wreaths from the following Indian princes: His Highness the Nawab Sahib of Joonagad, His Highness Maharaja Bhavsingjee Thakore Sahib of Bhavnagar, His Highness Sultan Mohamad Shah Sultan Aga Khan, K.C.I.E., His Highness the Thakore Sahib of Morvi, G.C.I.E., His Highness the Maharaja of Kolhapur, and from the Presidency of Bombay.

A new park for Tottenham.—At the next meeting of the Tottenham District Council a contract will be signed for the purchase of a new public recreation ground. The site selected is part of the estate known as "Downhills," and consists of a mansion, its grounds, and three large fields. The whole comprises nearly 30 acres, and although a good deal of neighbouring land has been sold for £1,000 an acre, the price to be paid for the new park is but £800 an acre, of which, by the way, it is not at present known how much the County Council will subscribe.

The Royal Gardeners' Orphan Fund.—The annual general meeting of the subscribers to this fund will be held at the Essex Hall, Essex Street, Strand, London, W.C., on Friday next, February 15, for the purpose of receiving the report of the committee and statement of accounts for the past year; to elect officers for the ensuing year; to elect twelve children to the benefits of the fund; and to transact such other business as may arise. The chair will be taken at 3 p.m., and the poll will close at 4.30 p.m. At 6 p.m. the annual friendly dinner will take place at Carr's Restaurant, 268,

Strand, under the presidency of Mr. Herbert J. Cutbush. The tickets are 5s. each. As is well known Mr. Brian Wynne, 8, Danes Inn, Strand, London, is the secretary.

Wreaths and flowers at the late Queen's funeral.—Surely never before has such a display of floral emblems been seen together as were sent to Windsor on the occasion of the funeral of Her late Majesty Queen Victoria. During the latter half of the past week large numbers arrived by almost every train. The Albert Memorial Chapel was filled chiefly with those sent from royal personages, the neighbouring cloisters were also completely full, and even then many hundreds were unavoidably left out in the open under the shelter of St. George's Chapel. It would be impossible to attempt to describe them, so numerous were they and varied in colour, form, and design. They were sent from the humblest as well as from the highest of Her late Majesty's subjects. One, however, amongst these beautiful tokens of love and sympathy appealed to us as being especially touching. It was the representation of a harp with broken strings, made chiefly of yellow Mimosa, and sent by a Welsh subject, with an appropriate note written in the Welsh language. But whatever their design, how much or how little was their value, or from whom they came, they all were one in that they served as a testimony of the love and respect borne to our late Sovereign by her mourning subjects.

Vegetable products of Australia.—Australia offers a wide field of work for those experienced in the industrial utilisation of vegetable products. Although the practical value of economic botany remains imperfectly understood throughout the Commonwealth, there are not wanting indications of its approaching recognition as a new and valuable source of national wealth. Recently, in New South Wales, Mr. R. T. Baker, the curator and economic botanist of the Sydney Technological Museum, appeared as a witness before a Royal Commission appointed to enquire into the condition of the western lands of the State. In the course of his examination he produced samples of eucalyptus oil in various stages, extracted from trees in the eastern portions of New South Wales, and stated that the colony now produces eucalyptus oil of the highest quality, fully equal to the best in the market. He said that a large amount of research has lately been made in connection with the flora of that part of the parent State, with very valuable results. For instance, myrticlorin, a new dyeing material, has been obtained from the leaves of the red stringy bark, in addition to the valuable oil extracted from the same source. Out of trees and shrubs in the eastern portion of the State, Mr. Baker has, with the assistance of his staff, extracted camphor, perfumes (such as otto of roses, ionone, and cinnamon), dyes, peppermint, and cajuput—oils which ought now to be pushed on the market. New South Wales can also compete against India and Bulgaria with its geraniol extract. Mr. Baker's evidence went to show that the vegetable products of the western, or dry country, in New South Wales possess an economic value not inferior to those of the eastern or coastal districts. It may be mentioned that there are in the west, as in the east, many millions of eucalyptus trees of various kinds, the trees and shrubs from which oils, resins, dyes, tans, and other products can be obtained being several hundred in number.—*Nature.*

Lælio-Cattleya Cappel.—A good plant of this remarkable hybrid was sold recently at Messrs. Protheroe and Morris's sale rooms. The flowers were larger and of better colour than those on the plant shown at one of the Royal Horticultural Society's meetings last year, when a certificate of merit was awarded to it. It is no exaggeration to say that it is by far the most distinct hybrid yet obtained in that section, and if the parentage can be depended upon, certainly this newcomer ought to take rank amongst hybrid Orchids, having for parentage *Lælia cinnabarina* and *Cattleya gigas sanderiana*. It has been described in the *Orchid Review* for February, 1899, by Mr. Rolfe, who says:—"The sepals and petals are over 2 inches long, and clear light yellow in colour, while the lip

is trilobed, much crisped, and with the front lobe and tips of the side lobes of a pretty light rosy purple shade, the remainder, including the throat, being yellow. It has obviously not yet reached its full development, in fact, it promises to be one of the best of the *Lælia cinnabarina* hybrids. Like most of the hybrids from the latter it has a good constitution, each bulb showing a marked advance on its predecessor, and we shall hope to hear of it again at its next time of flowering." Our Orchid authority was quite right in his expectations, as the plant offered for sale by Mr. H. A. Tracy, of Amyand Park Nurseries, Twickenham, was far better than the one described last year. Like all the hybrids from *Lælia cinnabarina*, this flowers at a time of the year when Orchid blossom is scarce. This particular specimen had five blossoms on one spike, and were remarkable for their size, form, and the beautiful rich orange colour of their sepals and petals, and also for their splendid trilobed serrated lip of a bright and particularly warm crimson tint.

SOCIETIES.

LIVERPOOL HORTICULTURAL ASSOCIATION.

The annual meeting of this society was held on Saturday, January 26, Mr. T. Foster presiding. The secretary read the report, which proved of a most satisfactory character; the two shows of the year fully sustained the character for finished productions in all sections. The number of subscribers and visitors amounted to 8,190. The thanks of the society were tendered to donors of special prizes and to the lecturers.

The statement of accounts shows prize money at the spring and autumn shows of £72 17s. and £145 16s. 6d.; cash taken at doors £152 19s. 3d. The general account includes a balance from last year of £92 2s. 1d., subscriptions £348 5s. 8d., other sources £15 3s. 2d., making a total of £455 10s. 11d. The expenses include excess of payments for spring and autumn exhibitions £220 13s., salaries and general expenses £84 9s. 11d., leaving a balance to the good of the society of £150 8s., or a gain on the year's working of £58 3s. 11d. A cordial vote of thanks was tendered to the officers for their services during the past year. It was resolved that the usual donation of £3 be sent to the Gardeners' Royal Benevolent Society and £2 to the Gardeners' Royal Orphan Fund.

At the election of officers the Lord Mayor of Liverpool was re-elected president, the following being re-elected to their respective positions: Mr. W. F. Rogers, hon. treasurer; Mr. G. Blackmore, sub-treasurer; Mr. H. Sadler, secretary, Victoria Street, Liverpool; and Mr. R. G. Waterman, auditor.

READING GARDENERS' SOCIETY.

The fortnightly meeting of this society was held in the club-room, Old Abbey Restaurant, on Monday, January 28, and was well attended. Mr. Leonard G. Sutton, the president, occupied the chair, and in opening the meeting voiced the feelings of each of the members present by referring to the great loss the country had sustained by the death of her beloved Queen.

The subject which had been arranged for the evening was "Garden Roses," by Mr. G. Gordon, V.M.H., but owing to the sad bereavement Mr. Gordon had sustained, this lecture was postponed and the evening devoted to impromptu speaking on the following:—Tomatoes: Mr. C. P. Crutchley, The Honey's Gardens, Twyford. Melons: Mr. W. Barnes, Bearwood Gardens. Raspberries: Mr. Moody, Reading. Potatoes for early use: Mr. H. Wilson, The Gardens, Lower Redlands, Reading. Zinnias: Mr. E. Fry, The Gardens, Greenlands, Reading. Freesias: Mr. R. Chamberlain, Cressingham Gardens. A great many questions were asked, and an interesting discussion followed each subject, in which the following took part: Messrs. Wicks, Exier, Ager W. Smith, Neve, Pigg, Tufnail, E. J. Dore, Townsend, Lever, Farey, Butcher, Hinton, G. Smith, Turner, and D. Dore. Exhibits were staged by Mr. W. Townsend, Sandhurst Lodge, consisting of *Spiræa Louis van Houtte*, *Deutzia Lemoinei*, *Staphylea colchica*, *Lilium floribunda*, and twenty-six varieties of *Helleborus*, whilst Mr. E. S. Pigg, of Samon Gardens, Kendrick Road, staged a small but well-flowered plant of *Begonia Gloire de Lorraine* struck from a leaf, the flowers and foliage being larger than those struck from cuttings. A vote of thanks was accorded to each of the exhibitors. Two new members were elected.

BRISTOL AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

The fortnightly meeting of this society was held at St. John's Parish Room on Thursday, January 31, Mr. A. J. Hancock presiding over a good attendance. The lecture was given by Mr. A. Moore-Sara, of Stoke Bishop, on "Leaves." With the aid of diagrams, as well as many green and dried specimens, he was able to make the subject at once interesting and instructive. He dealt in very clear detail with the many and varied forms of leaves, their arrangement, the leaf veins, leaf appendages, method of water secretion, and the action of chlorophyll. Mr. Moore-Sara's lecture was much appreciated, he being heartily thanked for it. Prizes for two foliage plants suitable for table decoration were secured by Messrs. Sutton, Shaddick, and Price. Certificates of merit went to Mr. White for *Dendrobium nobile* and to Mr. Quick for *Lælia anceps*.

THE GARDEN.

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[FEBRUARY 16, 1901.

THE ROYAL HORTICULTURAL SOCIETY AND ITS WORK.

ONCE again it is a pleasurable duty to congratulate the president and the council of the Royal Horticultural Society upon another year of splendid work, and a happy ending to the nineteenth century. A new epoch is ushered in with an increasing membership, a well-stocked exchequer, and enthusiastic supporters, who are interested solely in horticulture, with no desires to stray from the path so clearly indicated by the Royal Horticultural Society as the wise course to follow, without hindrance from association with kindred organisations. Horticulture and that alone, in its broadest sense, will support the Royal Horticultural Society and gather into its fold, not merely those who follow this industry for a livelihood, but the thousands of "amateurs" who love their gardens, and gain through their membership with the society a greater knowledge of flowers, fruits, and vegetables.

The report is pleasant reading to those who knew the society in less prosperous days, and horticulturists owe a heavy debt of gratitude to those who at a critical moment in its history saved the breaking ship from annihilation, and were pleased to give financial assistance to bring affairs into a satisfactory condition.

We have published this report with few omissions. It is a breezy and healthy record of the year's work, and, as truly said, "marks an era in the history of the society." The new charter—the third granted since the foundation of the society—came into force at the beginning of the year, and the bye-laws were adopted in July, the proposals of the council for voting by proxy being carried almost unanimously; and the past year, too, will be remembered for the meetings to promote more thoroughly the practical work of the Royal Horticultural Society by creating new gardens in a less crowded neighbourhood than Chiswick, where serious horticulture, at least, trials of flowers, fruits, and vegetables are impossible. It is unfair to criticise new productions when grown under unsatisfactory conditions.

Although no definite results were attained in the meetings about the new gardens, it is pleasant to know "the selection of a suitable site" is still occupying the attention of the council as a fitting way to celebrate the centenary.

We believe thoroughly in the proposed new garden, wherever it is, as a training ground for would-be gardeners or horticulturists, and as ensuring independent trials of flowers, fruits, and vegetables. A big hall is unnecessary. The present home of the society in the Drill Hall, Westminster, is not elaborate, but nothing much more expensive than this is required, if only the position is central and with pleasant surroundings.

The report draws attention to the need of supporting the fruit show of autumn, and this year a greater effort will be necessary, as the Crystal Palace Company is compelled to reduce its contribution to the fund by £50.

We hope this exhibition, which is an annual reminder of the great possibilities of fruit culture in the British Isles, will not cease to exist through lack of support.

There was a somewhat free distribution of certificates, "awards of merit," and medals, amounting to 1,012, first-class certificates numbering 68, and awards of merit 303, not an unreasonable list; but if awards are to be given to things we have known and appreciated since childhood days the list will develop inordinately. A certificate or an award of merit should never be given to anything so well known that it has become a familiar object in orchard and garden.

"The Journal" is a source of great strength to the society. This grows in importance, and is admirably edited by the secretary, the Rev. W. Wilks. It contains records of the meetings, and also the valuable papers read by various men eminent in the world of science and horticulture. And again we must praise Mr. Wilks for the pleasant balance to the good of £1,639 14s. 9d. on the work of the past year, with an increase in income of £597 6s., and in membership of 447, surely a record that shows a keen and growing interest, not merely in the society itself, but in horticulture in general.

The meeting on Tuesday last, presided over by Sir Trevor Lawrence, Bart., the president, was interesting and well attended, and is duly reported in the present issue.

NOTES OF THE WEEK.

The Orchid Stud Book.—Captain Hurst, Burbage, Hinckley, wishes to thank all those correspondents who have kindly favoured him with replies to his enquiries, and much regrets that he has not time to reply to all individually. As a result of the many valuable suggestions received, he has decided to considerably enlarge

the scope of the work, which will now include: (1) The first name and reference of all recorded crosses, regardless of their aesthetic merits, with references to figures and short description; (2) Selected varieties of above which have been figured in various works, with references and short description; (3) The parent species and varieties of above, with selected figures and short description.

Camellias in the open.—A great mistake is made by most people on the subject of the hardness of Camellias. Although in stiff, cold soil they will not flourish, they are as hardy in light soil as the Common Laurel—in fact, rather more so; but, flowering as they do in the winter, the flowers and half-opened buds are very apt to be disfigured, if not absolutely spoiled, by night frosts, and even by dew. The injury done is more observable in the white or pale colours, and therefore where no protection can be given the darker shades of red are the more suitable. If the white or delicately coloured ones are used they should be planted on the north side of a house or high wall and within a few feet of it, when it is very easy to give sufficient protection as soon as they are in bloom to prevent damage, and make the flowers individually serviceable for cutting and using in bouquets, by hanging a garden light (of which most people have plenty that are not in use in winter), or by stretching canvas over them. They are largely grown in gardens in the county of Dorset, and I can generally pick a fair number of unblemished blooms in my own garden throughout the winter, and even in the severest frosts.—H. R. DUGMORE, *Parkstone, Dorset.*

Apple Ashmead's Kernel.—It is not often we hear anything about this old Gloucestershire Apple, but, although old, it is still one of the best small dessert varieties we have for late use. It is not so good in flavour as Cox's Orange Pippin, but after Cox's are used Ashmead's Kernel is most welcome, having a brisk, crisp, sugary flavour, and keeps well until the end of March. The tree is of rather slender growth, and does not bear so early as some varieties, but is well worth waiting for. There is a new variety sent out under the name of Ashmead's Kernel Improved. Should this be the case, it should be in every collection of Apples.—W. O., *Fota.*

The Shasta Daisies.—When one thinks of the number of Marguerites of various kinds which are available for our gardens one wonders if there is still room for more. Yet it is evident that many of the recent new flowers raised from *Chrysanthemum maximum* are valuable plants, both for garden decoration and for use as cut blooms. The forms with laciniated petals are very ornamental and much more graceful than the old stiff ones. One learns, however, from Mr. Luther Burbank's new supplement to his "New Creations," that we are to have a new race of claimants for our favour in the shape of what he calls Shasta Daisies. Only one of the new race is to be sent out at present, but the engravings, apparently from photographs, give one a favourable impression of this new plant. The new race is said to be the product of hybridising the American and European species of *Chrysanthemum* with the Japanese *C. nipponicum*. There is certainly about the plant as shown a considerable reminder of the graceful Japanese plant, with less of the stiffness which we are apt to associate with

our *C. maximum*. It is a plant which I shall certainly try to obtain. Mr. Burbank makes a noteworthy announcement in introducing the Shasta Daisy, for he says that many new and graceful forms have lately appeared among the Shasta Daisies, and that "well-marked colours are now appearing in a flower which was never before seen except in white." One waits with some curiosity a description of these new colours and of the first appearance of these. Is it not possible that there may be some of the "blood" of *Pyrethrum roseum* in these? The prospect of flowers of the colours of our modern *Pyrethrums* on plants of the habit and blooming at the time of the Ox-eye Daisies is rather a fascinating one. Will it ever be realised? There seems to be no reason why it should not.—S. ARNOTT.

The Market Gardeners', Nurserymen, and Farmers' Association and her late Majesty the Queen. The following resolution was unanimously adopted at a meeting of this association held on the 5th inst.: "The Market Gardeners', Nurserymen, and Farmers' Association in meeting assembled do most respectfully tender to His Majesty the King the heartfelt sympathy of the members of the association in the irreparable loss sustained by His Majesty and the Royal Family, in common with the whole Empire, in the universally lamented death of Her Majesty Queen Victoria, and do most humbly proffer to His Majesty the King on his accession unfeigned congratulations and assurances of their profound loyalty and devotion to his person and throne."

All about Sweet Peas.—This is the title of a brochure written by Mr. Robert Sydenham, of Tenby Street, Birmingham. Those who are beginning to grow Sweet Peas or wish to know all the finest varieties, new and old, should write for it, as they will find everything they wish to know about the culture and selection of this beautiful flower fully explained.

Denbigh Castle Potato.—It is easy to understand why this Potato is little known, because it is only now being put into commerce. It was one of the first early kidneys grown for trial at Chiswick with so many others last summer, and proved when lifted to be such a good cropper, and when cooked so delicious and so much better than the average of early kidneys, that the fruit and vegetable committee at Chiswick unanimously granted it the unusual award of a first-class certificate. The variety was sent to the gardens by Messrs. C. Sharpe and Co., Sleaford, by whom I observe it is now being offered. The variety has in it something of the old Walnut-leaf Kidney, and very much of its crisp nutty flavour. If everywhere it shows the same character seen in earliness, cropping, and cooking as seen at Chiswick it should prove to be a great gain to early Potatoes.—A. DEAN.

The Hampstead Heath Protection Society.—We have received the annual report of this society from the honorary secretaries, Mr. H. F. Pooley and Miss Emily Field. This society is accomplishing excellent work, as the following remarks will show, and we hope the London County Council will recognise the efforts being made to preserve the natural beauty of the Heath:—"The committee have called the Council's attention to the cast-iron drinking-fountains lately placed on the Heath, and suggested that any fountains placed in future on the Heath should be of rough stone or some suitable material, and more in harmony with the character of the surroundings. They have also given careful attention to the question of the bare state of the banks of some of the ponds on the Heath, and have suggested to the London County Council, as a beginning, some practical steps which might be taken for restoring the natural aspect of the banks of the Log of Mutton Pond. At the same time they suggested the removal of several *Laburnums* which had been planted under the Scotch Firs at the end of the Spaniards' Road. A sub-committee have reported to the committee on the subject of the deep ruts near the Flagstaff, and their recommendations have been sent to the London County Council. The committee have corresponded with the New River Company, who have acceded to

their request that the banks of the newly enlarged reservoir on the summit of the Heath should be planted with suitable trees and shrubs. The surplus left from the purchase of Golder's Hill having been placed in the hands of the Metropolitan Public Gardens Association as the nucleus of a fund for some further extension of Hampstead Heath, it was suggested by Mr. B. Holmes, their secretary, that it might be ultimately possible to buy Telegraph Hill for the public, should it at any time be for sale. The Hampstead Heath Protection Society committee warmly approved of this, and passed a resolution—which was sent to the Golder's Hill trustees and to the Metropolitan Public Gardens Association—to the effect that the society would cordially support any such scheme. The committee are watching with much anxiety the proceedings of the promoters of the proposed extension of the Charing Cross, Euston, and Hampstead Railway in the direction of Golder's Green and Hendon. They are in communication on this subject with the Commons Preservation Society, the Metropolitan Public Gardens Association, and the Hampstead Borough Council, with a view of co-operating in opposition to any features of the scheme which would be injurious to the Heath. They deprecate any tunnelling under the Heath, and the erection of any station which would in any way encroach or infringe upon it." The Right Hon. the Earl of Mansfield is patron in place of the late Duke of Westminster; Mr. Brodie Hoare, M.P., has been re-elected president, and Sir Spencer Mayson Wilson and Mr. S. Parsons, jun., ex-superintendent of the New York parks, have become honorary members.

The National Rose Society's Show.—Rosarians will be interested in knowing that this great summer show of Roses will not take place this year at the Crystal Palace, but in the gardens of the Inner Temple. This departure will, we hope, be for the good of so excellent a society as the National Rose Society.

"Gardens Old and New."—We draw the attention of our readers to the supplement given with the present issue concerning this important work, which forms part of the valuable *Country Life* Library now being added to by several excellent and trustworthy horticultural books. We shall review "Gardens Old and New" shortly; but all who love the gardens of England should add this work to their library at once.

Lobelia Lord Ardilaun.—In his charming account of some of the treasures of Mr. W. E. Gumbleton's famous garden at Belgrove, Mr. Burbidge incidentally mentions and praises this handsome *Lobelia*. It is well worth noting by those who like the brilliant *Lobelias* of the type of *L. fulgens*. Its velvety flowers are of a rich crimson and are on stout bold stalks, so that it makes a very effective plant. The most peculiar feature about it is, however, the hoary appearance of the leaves; this gives the plant quite a distinct look compared with the other *Lobelias* of the same class. I believe this *Lobelia* is one of those raised by Mr. A. Campbell, the skilful gardener to Lord Ardilaun, at St. Anne's, Clontarf, Dublin. I saw a bed of it there and admired its fine appearance, although it had to hold its own with another better known variety also raised by Mr. Campbell, which has earned golden opinions under the appropriate name of *Firefly*.—A.

Clianthus puniceus in the south-west of Scotland.—In THE GARDEN of December 22 there is an interesting reference in a letter from Mr. A. Allison, of New Zealand, to a plant of *Clianthus puniceus*, raised from seeds sent by him, flowering on a wall at Dumfries out of doors. I believe that this plant, which lived and flowered for a number of years, succumbed to a hard winter a few years ago. I had hoped to have an opportunity of ascertaining a few particulars about it, but have not yet been able to do so. It was grown on a sunny wall, and was protected with mats in winter. It was an object of much interest for a number of years, and I hope that the information that it was dead received some time ago may be erroneous. I fear not, however. I am not aware of another plant in the open in the same district, but I know of gardens in the south-west of Scot-

land where it ought with a little care in winter to become a brilliant feature of a sunny wall. It is far more striking when seen out of doors than in a conservatory, where one can never see it to the same advantage as in the open. I have never tried it here, but it is one of the many striking plants one would like to grow were more space available.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

A chat on Daffodils.—A booklet with the above title has been published under the auspices of the Horticultural Association of New South Wales, and is really a collection of Mr. Peter Barr's interesting remarks on Daffodils made by him during his recent visit to Australia. The association, realising the importance and value of Mr. Peter Barr's chats on Daffodils, decided to rescue them from forgetfulness, and approached him for permission to reprint the same for circulation amongst its members as a souvenir of Mr. Barr's visit. The committee has decided to offer copies to all the horticultural societies of Australia, New Zealand, and the general public. Any profits accruing from this brochure will be spent in adding to the existing library of the Sydney Gardeners' Association, which is open to members of all kindred societies throughout Australasia.

Lettuce Commodore Nutt.—At this time of year, when the autumn-sown Lettuce for early spring supply is damping off wholesale, any kind that can be grown quickly to maintain a somewhat scanty supply will be valuable. In our own case damp is more fatal to the autumn-sown plants than frost. Against the latter one can protect, but excessive damp is fatal. Last season we found Commodore Nutt Lettuce our earliest to mature. Seedlings sown in boxes early in January and grown under glass gave compact heads early in April; it is a small variety but remarkably sweet. Planted in boxes a few inches apart it turns in rapidly, and its compact habit, for it may be termed all heart, makes it more useful. I am aware there are much larger forcing varieties, such as Golden Queen, a very fine Lettuce, and excellent to follow the one named above, but as many readers of THE GARDEN are aware the scarcity exists usually in April or early May, and even a few days gain is important. For frame purposes this variety is especially good; I have grown it in pots, but prefer boxes or shallow frames; if in boxes a little warmth at the start is beneficial.—W.

Spring Cabbage.—Owing to the mildness of the season we had a very good supply of spring Cabbage the latter part of January. Readers may ask what would you do for a spring supply? In reply, we always plant the autumn-sown Cabbage in three batches; the earliest is not a large planting, whilst the second and third are planted in thousands to hundreds of the earlier one. In certain seasons there is a chance of the plants running, this contingency, we expect, but so far, by planting Sutton's Flower of Spring, we have had no cause to complain of bolting. The plants turn in very early in a mild season—now the latter is an advantage with a later supply to fall back upon. Of course, should severe weather set in, such early Cabbage may get injured; to avoid this, we lift those with hard, compact hearts, and place under cover, and they are much liked at table. I am aware there is no lack of green vegetables, but early Cabbages have such a distinct flavour that they are always appreciated, and the above being a small variety, with few outer leaves, a number of plants may be grown in a small space. Ellams' is also reliable for early supplies if a good stock is secured, but Flower of Spring is an earlier variety.—G. W.

Crocasmia aurea var. maculata. Whilst the type of this extremely decorative South African plant has been in cultivation for over half a century, it was not until the year 1888 that this handsome variety was shown at one of the Royal Horticultural Society's meetings by Mr. James O'Brien, with the information that it probably came from Algoa Bay. Although frequently grown as a greenhouse plant for inside decoration, it is also a desirable subject for outdoor cultivation, and may with safety be left out all the winter in the warmer parts of the country. In the event of

frost protect the plants with a few dry leaves. In the colder districts the corms may be lifted and potted up for the winter, placing them in a frame for shelter, but not attempting to dry them off. Planted in groups in sheltered sunny positions in a light loamy soil, the bright orange-yellow flowers are very effective, being borne in great profusion and lasting in full beauty for three or four months. The flowers are about 2 inches in diameter, and borne on stems over 2 feet in height. *C. a. maculata* only differs from the type in being more robust in growth and taller, while the three inner segments of the somewhat larger flowers have a blotch of red-brown colour near the base. It is also known by the name of *Tritionia*.—W. IRVING.

Apple Brabant Bellefleur.—A variety which received an award of merit at a recent meeting of the Royal Horticultural Society was Brabant Bellefleur, an Apple not often staged in such excellent condition as on the occasion referred to. Like other old or well-known varieties, it is not a favourite in all gardens; indeed, only a few seasons ago I saw a well known grower rooting up this variety to plant others that did better as regards regular cropping. It was rather strange that an Apple which was sent to Chiswick Gardens many years ago, and which no doubt fruited in the Royal Horticultural Society's gardens for the first time, should be recognised after so long a time. This Apple is also known under the name of *Glory of Flanders*. It is a handsome fruit, large, and a greenish yellow, changing to a bright yellow when ripe. It is often seen at shows on account of its size, and makes a telling dish in a collection. It is valuable as a good keeping variety, being in season from December until April; indeed, to show its good keeping properties I have seen it on several occasions staged at the Temple show late in May.—G. W. S.

The Chinese Peach (*Prunus davidiana*).—The flowers of this tree are always welcome as being one of the very earliest harbingers of spring. Along with the Asiatic Witch Hazels (*Hamamelis*), they were this year showing colour before January was past. Like other very early plants, however, this Peach is not so fine when it is prematurely forced into bloom by mild January weather as when hard frosts after Christmas keep it back till about mid-February. Then the whole of the flower seeds burst simultaneously, and have a charming effect if the trees have a background of Holly or Evergreen Oak. There are two varieties of the species—known as "*rubra*" and "*alba*." The former has lovely rose-tinted blossoms, but I think on the whole the pure white "*alba*" is preferable. It seems to flower more freely, and produces each year long erect shoots, which will soon be wreathed from top to bottom with flowers. This white variety, indeed, very frequently has a marked tendency to a fastigate form of growth—like a small Lombardy Poplar. The species was originally sent to Europe by the Abbé David, the French missionary in China. It is said to be a very common tree in the vicinity of Peking.—W. J. BEAN.

Gishurstine.—From the Belmont Works, Battersea, S.W., Price's Patent Candle Company, have come several tins of this excellent compound, which is so useful to all engaged in gardening.

Prunus sinensis flore-pleno.—Though differences of opinion may prevail as to the correct specific name of this *Prunus* (for it is known as *japonica* as well as *sinensis*), there can be no question that it is one of the most desirable little shrubs that we have for the greenhouse in the early year. It is readily forced, and the slender shoots, closely packed with comparatively large showy blossoms, form an attractive feature, and the plant itself remains bright for a longer period than many forced shrubs, as a succession is often maintained for some time. There are two forms—one in which the flowers are pure white, and in the other pink, which, however, pales after expansion. The typical kind, with single blossoms,

is not, as far as I know, in cultivation. This member of the Plum family may be grown in pots, and in this way it can be kept in health for years if needed. Immediately after flowering the branches should be pruned back to within a couple of inches of the base, and the plant be encouraged to make good vigorous shoots, which, when well ripened by full exposure to the sun as the summer advances, can be depended upon to flower well. In obtaining plants see that they are on their own roots, as they are often met with grafted or budded on to the Sloe, which mode of increase is never satisfactory. Suckers are always a source of trouble, and decay often sets in at the point of union. It can be readily increased by layers, while cuttings of the young shoots produced under glass strike root fairly well if put in a close propagating case.—H. P.

Cypripedium H. Hannington (*C. villosum* × *C. fascinator*).—This is a new and remarkable hybrid. *C. fascinator*, the male parent, is itself a hybrid raised between spiceria-



CYPRIPEDIUM H. HANNINGTON.
(About one-third natural size.)

num magnificum and *hirsutissimum*, and the brilliant colours of the cross now under notice are evidently obtained from the pollen parent, while the other parent gives size and that rich glossy appearance peculiar to *villosum*. The dorsal sepal is wonderfully coloured, exactly $2\frac{3}{4}$ inches across, the outline being boldly waved and nearly orbicular; a deep median line of dark crimson maroon extends from base to apex, on either side of which is an area of soft rose-lake, relieved by deeper veining and spotting. The base is a soft Apple green tinted with yellow and nearly covered with innumerable pin-like sepia spots: the whole segment is circumscribed by a broad zone of the purest white. The petals have their upper margins strongly undulated. Each has the dark central line seen in all primary hybrids obtained from *C. villosum*. Their colours may be described as an enlarged repetition of those on the lower part of the dorsal, several soft brown markings taking the place of the sepia spots. At their apices they shade into light yellowish green. The large boldly-shaped pouch is of a delicate brown toned with yellow and green, entirely so on the under surface, with faint red-brown striations on the front; the interior is thickly dotted with crimson-red on a light ground;

the staminode is faintly tinged with pink, and has a yellow boss. This has just flowered in the collection of Mr. R. H. Measures, The Woodlands, Streatham.

Grape West's St. Peter's.—Why is this Grape more often seen? Though, probably, rather too small in bunch and berry for market, it is unsurpassed for private use from October to January. It comes in when the Hamburgs are finished and before Lady Downe's is ready for use, and is much better flavoured than either Gros Maroc, Alicante, or Gros Colmar. With care it may be kept until the end of January. It is a vigorous grower, sets its fruit freely, and invariably colours well, the flavour being almost equal to that of the Black Hamburgh, which it much resembles in appearance. It requires a warm vinery and liberal treatment. West's St. Peter's is one of the many varieties of Grapes that have been almost elbowed out of cultivation by larger, more showy, but poorer flavoured sorts.—C.

Herbaceous Lobelias.—A considerable correspondence has been carried on in your columns during the past few years on the subject of wintering these handsome plants, a subject briefly alluded to by Mr. J. C. Tallack in his "Flower Garden" notes on page 48. There is no doubt but that in some soils and situations it seems impossible to keep them in health in the open, while in others they pass through the severest winters without injury, though totally unprotected. I have experienced both of these fortunes: the first in light soil in an exceptionally sheltered and warm site, perhaps the most favoured in this respect of any on the mainland of England, where the only method of preserving the stock was that of lifting, dividing, and bringing the plants under glass, referred to by Mr. Tallack, while the second occurred in heavy, retentive loam in close proximity to water, where the plants, after being divided in October, passed through the winters, the exceptionally severe one of 1894-95 amongst them, in perfect health without the slightest protection. Other instances have been cited of these Lobelias enjoying robust health in heavy, damp soil, in cold localities, though unprotected during the winter, and there seems to be but little doubt that it is under these conditions that they best retain their health. This, I

am glad to see, is recognised in the answer to a correspondent enquiring as to the best plants for a swampy spot (page 35), *Lobelia cardinalis* being included amongst those recommended. I may mention that I have grown varieties of *Lobelia fulgens* and *L. syphilitica* as well as the true *L. cardinalis*, and all have proved equally hardy under similar conditions. Where, however, it is found impracticable to keep these plants in good health through the winter in the open ground, the advice given by Mr. Tallack to raise from seed should most certainly be followed.—S. W. F.

Roses and St. George's Day.—Mr. Francis George Heath, Underwood, Kew Gardens, Surrey, writes:—"Will you kindly permit me, on behalf of the committee of the Society of St. George, to express the hope that Rose growers generally will endeavour to provide for the large demand which it is hoped and believed will be made on the forthcoming St. George's Day—April 23—for red and white Roses. Our honorary secretary, Mr. Howard Ruff, 241, Shaftesbury Avenue, Bloomsbury, would be pleased to give any information to applicants as to the patriotic objects of the society."

Vallota purpurea.—Although, as mentioned in the note accompanying the excellent drawing of this handsome flower which appeared on page 44, large numbers are now imported into this country from the Cape, it is doubtful if such fine specimens are as general at the present time as in bygone years. Cottagers used sometimes to grow the "Scarborough Lily" with marked success, and the finest plant I have ever seen as regards vigour and size of scapes had its home in a cottage window. Many of the losses alluded to in the note may, I fancy, be attributed to the bulb mite. I was unfortunate enough to lose a col-



LILIIUM TESTACEUM BY WOODLAND PATH.

lection through this pest, though whether it was identical with the *Eucharis* bulb mite or no I am unable to say. The advice given that sandy soil should be used in potting *Vallotas* is worthy of attention, and should, I think, be followed in the case of most Cape bulbs. In one region in which they grow in thousands and where I have met with them, they are chiefly found by the verges of small rivers running in deep kloofs from a range of mountains to the seven miles distant sea. Here the low banks and spits on which they grow are formed chiefly of the gritty detritus washed down from the higher levels, and the plants, as there is no regular rainy season, are covered with feet of foaming water after heavy rains. One such flood took place in the month of February while the plants were in bloom, but they appeared none the worse for their two days' immersion a fortnight later. I found no variation in colour or shape of

is easy to establish in any good loam. The illustration shows its importance when grown in a handsome mass.

A JAMAICA GARDEN.

(Continued from Vol. LVIII., page 447.)

SEPTEMBER NOTES.

It is a sunny morning in mid-September, and I write under the shade of the *Seaforthia* Palm just below the garden tank. The outflowing water drops some 3 feet into a natural basin, which it has scooped out by its own weight and scour. It sounds a deep, lulling note, or rather blend of notes, which rises a little and then falls a little in indeterminate cadence. You try in vain to fix the pitch at any moment. It is more elusive than that of human

flowers in the district referred to, and doubtless those bulbs producing blooms differing in tint and form from the type are collected elsewhere. There may be a fixed pink form, but I have always attributed this tint to weakness in the plant. A bulb bearing flowers of a normal colour when lifted from its native bank produced faintly hued blooms on its first flowering in England, but afterwards reverted to its rightful tint. In the same way it usually takes the bulbs some little time to accustom themselves to the change of seasons. The earliest to flower of those that I brought home blossomed in March and others in April and May, but before long all accommodated themselves to the climatic conditions.

—S. W. FITZHERBERT.

LILIIUM TESTACEUM.

LILIES are plants of so stately a character that it is strange how seldom they are used in the mass to make large effects in the garden landscape. It is true that where the White Lily does well and increases fast, some such use is made of it, and we see it in noble clumps and lines. Also the *Auratum* Lily, now so cheap and easy to obtain, is being more often used; but others quite as willing to grow are comparatively neglected. Among these is the beautiful *L. testaceum* or *excelsum*, a tall free-growing turncap of a warm nankeen colour that

speech. The basin gives but an instant's pause, and away runs the rill in its usual hurry and flurry. In front of me are rough stone steps, rising, not straight, but in the arc of a wide circle to the tank, broad and roomy, as becomes a way calculated for *Ledhu* and two watering cans; apt, however, to be invaded by neighbouring growths and bold usurpers of the middle of the track, and so much improved by Nature's planting that obstructions are left till passage becomes impossible. Then a clean sweep is made, and, such is the inconstant nature of man, one rejoices at its appearance now that it is cleared, to rejoice again when intrusive seedlings take possession of those tempting pieces of territory which cracks between stones afford. Between rill and steps is a small space of 10 square yards, kept always boggy and brilliant with *Lobelia cardinalis*, which is seldom out of flower. *Ixora stricta* towards the tank wall carries out the scheme in red, which is continued on the other side of the steps by bronze-leaved red *Cannas*. A *Pandanus*, whose well poised leaves are broadly edged with white, the combination recalling the best colouring of variegated Holly, is particularly handsome in conjunction with the stonework just here. Over it is the Pomegranate with bursting fruit, inviting to thirsty boys on such a morning as this. The boggy corner is carpeted with *Panicum variegatum*. Nothing can be prettier with the *Lobelia* and *Ixora*. The latter, which is very slow in growth, is still an open bush, not the close, compact shrub it will one day become, and the grass climbs lovingly up it. There are always a few self-sown *Coreopsis*, a plant which likes a wet place—the wetter the better—and behind and over all is an imposing group of White Ginger (*Hedychium coronarium*), every spike in flower in autumn, though most of the year we have to be content with leaves alone. In such a spot Ferns are, of course, in profusion, and *Selaginella* makes a curly undergrowth. Callas, too, are such fine things that they can scarcely be neglected in so suitable a place, and they are massed so as to answer across the basin to the Ginger.

Looking in this direction, which is uphill towards the house, the winding grass path leads under a *Robinia*, a well grown tree with three stems branching low. It is in fullest leaf just now and very handsome. Behind it, makes itself well felt, that commonest of shrubs *Hibiscus rosa-sinensis*, the old single red, henceforth to be designated by its local name of Shoeblack, so called because its flower freshly plucked and rubbed upon them is used to polish boots. It is usually relegated to hedges, but so grand a thing deserves a better position, and here it is, close to the tank, in a post of honour. Under it is a bold breadth of Rockbush (*Begonia ricinifolia*). Of all this splendid family this is, perhaps, the best garden plant. It serves the same purpose as *Megasea*, being slightly larger and more upstanding. Associated with masonry it is perfect, with its boldly sculptured leaves, and in winter it is covered with puffs of pale pink blossom, in proportion such as *London Pride* would bear if it had the same sized leaf.

From where I stand another group of *Begonia* is prominent. I have never been able to ascertain its name, but always think of it in my mind as *Dielytra*, which in flower it greatly resembles. It is always in full bloom, and plants last several years without wearing out. An occasional cutting out of old stalks and shortening in of old wood is all that is required. Behind this I see *Excoecaria bicolor*, a neat little shrub, faint reflex of the glorious Star Apple, which it resembles somewhat in appearance—the boys call it Tar Apple plant—only the under side of its leaf is red. It is well placed here on steep ground, so that you can stand below and look up at it. Above is a wall, built with a few large stones and earth for all mortar, thickly set with an Aloe—known as Single Bible, corruption of *Sempervivum*, a name given in error—whose tall yellow spikes, like a branched *Tritoma*, attract the humming birds. The further corner of the wall carries an old-established clump of *Crinum caribæum*. Usually it throws down its head, but to-day a fine umbel stands erect and cries "Don't forget me; remember, I am the oldest inhabitant of the garden. You found me here when you

came." Robinia and Shoeblick hide out the house, but just over the slope of the kitchen roof I catch sight of that Seville Orange which is always planted near a dwelling for the cleansing of floors and the washing of dirty hands. When a mason's day's work is over he knocks off some Seville Oranges, breaks them in half and rubs his hands with them. This is that very Orange, which looks so small under the Cotton trees (*Eriodendron anfractuosum*, the Ceiba of Kingsley's "At Last"). Throwing back my neck to dislocation point I get a glimpse of their tops.

The piece of ground I have been describing, from the boggy Lobelia patch at my feet to the stems of the Cotton trees, is a narrow strip all taken in with one position of the head and without conscious shifting of the eyes. The story seems long in telling, and yet it is by no means a full recital. I see scores of things left out, and some very important things too. Not a word of the wide breadth of *Moræa iridioides*, the large-flowered variety of which is such a feature under the Robinia, with its beautiful pure pale flowers. Nothing of that Marica whose praises were so lately sounded, and there are its fine leaves, though this is not flowering day.

In the same sweep of eyesight are *Lycoris japonica*, a Lily whose sumptuous hue of red is all its own, at least I never met its match; pretty, modest green and white *Caladiums*, the only ones admitted here; *Begonias* of many other kinds, notably *B. metallica*, whose leaves, with their well marked veins take on unexpected lustre in the sunshine, and *B. rubra*, which flashes from several points far away. Neat little *Rivina humilis*, too, at my very feet, so dainty in blossom and berry, one of those wild plants which is never a weed; Mother-of-thousands (*Saxifraga sarmentosa*); the dear old favourite Ivy-leaved Toad-flax (*Linaria Cymbalaria*), as much at home on my tank steps as on English walls; *Olea fragrans*, to use its time-honoured name, though we should say *Osmanthus*, smelling like Grape Hyacinth (*Muscari*), only sweeter; the graceful native Lily *Zephyranthes tubispatha*, so much more refined than its floppy, pink brother *Z. carinata*, which with us does duty (garden, not medical) for *Colchicum*; well grown *Balsams*, no thanks to the grower, but all to the soil and climate, blood-red and pink; Rose Mr. Henry Bennett, shell-like and lovely; Mexican Firebush, otherwise known as Annual Poinsettia (*Euphorbia heterophylla*), Jamaica Forget-me-not (*Browallia demissa*), and that most perfect of all Forget-me-Nots, our own home water one, which spreads itself uninvited but not unappreciated in all sorts of damp corners. I see, too, that grand scarlet *Salvia* "Bonfire," which does best in such a position as it occupies close to me across the rill, under the half shade of a pretty wild shrub, French Cotton or Chinese Cotton (*Gomphocarpus fruticosus*). It bears bunches of drooping white flowers, followed by great swollen bladders, which burst and set free the Cotton winged seeds. Its leaves, which are like Willow, mitigate, but do not exclude sun. A tendency to be devoured by aphids seems to indicate that it would not be a desirable occupant of greenhouse space.

HORSE-RADISH TREE.

Further on and higher up, over steps which rise to the Square Garden, are trees of *Moringa pterygosperma* deserving more than a passing word. In design the leaves match those of *Thalictrum adiantifolium* growing just below. Indeed, if the name "Maidenhair Tree" had not been already appropriated by *Salisburia*, it would seem exactly the right designation. Its creamy white flowers profusely borne perfume the air as with fresh burnt incense. From the wood is extracted a blue dye, the root is used as Horse-radish, which gives the English name Horse-radish Tree, and the seeds supply that oil of Ben known to watchmakers. It makes such rapid growth that I cut it down at least once a year to bring leaves and flowers nearer to eyes and nose. One of those I am looking at is the patriarch of his race, an old wild or rather run wild occupant of the ground when it was "in ruinate," as the phrase goes. It was cut low a few months ago, and is now 12 feet high, garlanded

with Black-eyed Susan (*Thunbergia alata*), but this particular Susan is all primrose, with eye, if anything, a little lighter than the rest of her face. The list is not exhausted, for I see a striking mass of brilliantly yellow *Croton*, burning trails of *Tropeolum lobbianum*, silver bushes of Dusty Miller (*Cineraria maritima*), and yet there is more. I have turned by this time quarter face to the left, and I want rather to give an idea of the picture right in front of me just over the tank, the next section to the Lobelia-Shoeblick one, not in detail, but in its boldest features. Twenty yards distant and several feet above me is a background of low outbuildings, masked for half its length by a pergola. The eye flies to a large bunch of *Plumbago capensis* in front of the bathroom door. Some distance downhill are two far-spreading *W. A. Richardson* Roses; boughs of one of them dip into the tank below, which is my point of observation. I just catch sight of a blue Water Lily (*Nymphaea zanzibarensis*), and then all is Rose and *Plumbago*. Now bear in mind that these are always in bloom, and the colour of the rest of the picture is in some measure determined. White there must certainly be, nothing more suitable and durable than *Petunia* and *Vinca*, no trailing *Periwinkle* this, but the upstanding *V. rosea alba*. It is the whitest thing in the garden, and makes everything else look yellow. More white will be supplied by a *Beaumontia*, which is covering the pergola, whose flowering is awaited with eager expectation.

Below the *Beaumontia* is a steeply sloping bank, which varies from time to time in its furnishing. It begins with pale salmon-pink *Geranium*, *Lavender*, and *Dusty Miller*. That was satisfactory. At another time it was "Sunny South" *Zinnia*, satisfactory too, but fleeting. Sometimes a short, sharp note of piercing African Marigold is tried and is a success. A *Rosemary* just opposite the tank Rose was one of those unfortunate blunders the inexperienced make. I expected to have an expanse of delightful, quiet colour at the right hand bottom corner of my picture. It is well enough in the slanting lights early and late, but with a high sun, just the time one seeks the shady spot under the Palm, it looks shabby and rusty, and yet it must stay, for it forms a perfect foreground to another picture seen from higher up the hill. You look into the head of the *Rosemary*, dancing water behind it; then rising successively one of the *Richardson* Roses,

the Shoeblick, and at one corner of the terrace on which the house stands, the corner that is of the Aloe wall, gorgeous Barbados Pride (*Casalpinia pulcherrima*) with the *Moringas* on the left.—W. J.

A COMBINATION OF ROSES.

A most interesting bed of single and semi-double Roses could be formed by planting together *Bardou Job*, *R. Pissardi*, and *R. setigera*, the more so as, being late-flowering, one would obtain a mass of bloom just as the other single Roses are waning. Perhaps the best arrangement would be to plant several plants of *Bardou Job* in the centre of the bed and induce them to grow in columnar form by securing the growths to short stakes. This is probably one of the most beautiful of the single Roses, and at present it is not surpassed in richness of colour, the charming foliage helping not a little to add beauty to the variety. Around this clump of *Bardou Job* a few of the very constant-flowering *R. Pissardi* should be massed. It has fine trusses of pure white, Musk-scented flowers, and little flesh-pink buds intermingled. To surround this I would recommend the *Prairie Rose*, *R. setigera*, or *R. rubrifolia* of some; its flowers are rich pink in colour, shading to blush, and produced in clusters. The growth is decidedly rambling, but this could be pegged around the bed, and also some growths allowed to run among the other two. When the whole were in bloom a very pretty effect would be produced, and, of course, interest would be maintained by the two first-named, as they continue flowering for several weeks. P.

OUR BOTANIC GARDENS.

CAMBRIDGE.

CAMBRIDGE is fortunate in its Botanic Gardens, and the Botanic Gardens are fortunate in their curator. Such is the conclusion one arrives at after a visit to them and a walk around the interesting and instructive collections of hardy and tender plants which they possess. Cambridge Botanic Gardens exist mainly for the purpose of supplying the University with material for scientific



IN THE CAMBRIDGE BOTANIC GARDENS.

research. They are, however, subject to certain regulations, thrown open to the public on week days, and during the summer months are very popular with the inhabitants of the University town as a place of recreation. The number of seedling plants in various stages of growth, and other specimens supplied to the students almost every day during term-time is enormous, amounting sometimes to considerably more than 1,000. When one remembers that the numerous natural orders of flowering plants, Ferns, mosses, &c., that it is necessary should be as representative as possible, have to be maintained and the careful cultivation that such a varied collection of plants entails; when one thinks also of the large number of flowers that are required for purposes of examination in the laboratory, together with the necessity of always having the grounds bright, varied, and of neat appearance in consideration of the public visitors, it is evident that the duties of curator, for nearly twenty-two years most ably carried out by Mr. R. Irwin Lynch, are no sinecure.

The history of the Botanic Gardens, which Mr. Lynch was good enough to summarise, is of unusual interest. It was in 1696 that the proposition was first made to establish a physic garden in connection with the University, and the ground was therefore selected. From then until 1760, however, nothing more was done in the matter. In the latter year £1,600 was spent in the purchase of five acres of ground, where had formerly stood the monastery of the Austin Friars. In 1847 about thirty-eight acres of land were obtained on the south side of the town, open to the country and more suitable for plant cultivation. To this new ground the collections of plants were transferred, and about thirteen years ago the handsome corridor and plant houses were erected. These are most conveniently arranged; each glass house set apart for the cultivation of a certain class of plants is built at right angles to the corridor, with which it is connected, and leading from the corridor on the opposite side are the propagating houses, potting sheds, offices, laboratory, &c.

Most persons interested in general gardening could not fail to notice one feature in the Cambridge Botanic Gardens, and if we were asked to mention any particular way in which these gardens have rendered a service to general horticulture we would unhesitatingly point to this special feature. We refer to the valuable information that has here been gained with reference to the hardiness of many flowering plants before supposed to be half-hardy or tender. It was quite surprising to see many such out of doors that one usually meets with in glass houses. To mention but a few of the most noteworthy, *Olea europea* (the Olive Tree), thriving well, has been outside all the year round for the last ten years; *Thunbergia natalensis*, *Photinia serrulata*, *Eupatorium fragrans*, which flowers quite freely; *Coronilla glauca* will here withstand a moderately severe winter; a Myrtle bush, *Heimia grandiflora*, bearing large yellow flowers, has been outside since 1887; *Chlorophytum elatum variegatum*, so much used now in the embellishment of our flower-beds in summer, is here quite hardy. *Erythrina Cristo galli* (the Coral Tree) has been out many years, and other examples might be cited.

These, it is perhaps but right to say, were not in exposed positions, but on a border at the foot of a wall, from which, of course, a certain

amount of protection would be derived. That they should be thriving so remarkably well out of doors here is, however, worthy of note. The New Zealand *Veronicas* are exceptionally fine at Cambridge, *Capparis spinosa* flowers well, and *Ribes speciosum*, a very showy species; *Amicia zygomeris*, figured and described in THE GARDEN of December 1, 1900; *Senecio compacta*, a shrubby *Senecio*; *S. niveus*, a South African species; a leafless form of *Rubus australis*, having pretty white spines; *Pentstemon Menziesii*, shrubby; *Veronica cupressoides*, bearing a striking resemblance to *Cupressus* foliage; those fine Torch Lilies, *Kniphofia caulescens* and *K. Tuckii*, and *Cotoneaster horizontalis*, particularly fine, with bluish tinted leaves, are just a few other noteworthy hardy plants in the Cambridge collection.

Thladiantha dubia, so well shown at the Drill Hall, Westminster, last year by Messrs. Veitch, of Chelsea, thrives well upon an iron fence



MR. R. IRWIN LYNCH, A.L.S.

near Mr. Lynch's house, and for the last two or three months of the year its numerous ovate fruits, scarlet-crimson in colour, are very bright and picturesque. Hardy Cacti are very successfully cultivated in the Cambridge Botanic Gardens; they are simply protected by means of sashes during very severe or very wet weather, heavy rains even doing more harm to them than cold. Several *Opuntias* have flowered here, and there is a fine mass of *O. Engelmanni*, this having flowered last year for the first time, although it was planted in 1895. *Opuntia glauca*, *O. arborescens*, *Agave utahensis*, and *Echeveria Purpusi* are all at home out of doors, and *Gerbera Jamesoni*, growing with them, is a picture of healthy luxuriance.

Around the lake there are many charming peeps to be obtained, in which during the winter time the brightly coloured stems of Dogwood and Willows play no unimportant part, whilst in spring and summer the clumps of Bamboos (of the finest we remember to have

seen) being then at their best give an additional graceful beauty. The bog garden, too, is full of interest, as much from its position and design as from the plants it contains. It is in a sheltered nook quite close to the lake, and almost surrounded by sloping banks, where many Ferns and some herbaceous plants find a congenial home; the centre of the bog garden is really a tiny lake, wherein are mounds of land or islets, and these form an ideal spot for many water-loving plants. The herbaceous plants are not arranged in the manner usual in botanic gardens, i.e., in narrow, oblong, and unsightly beds, but the latter are of various forms, simply units in a design. In this arrangement, however, botanical sequence is adhered to, and Mr. Lynch does not find that study is in any way impeded, and from a garden point of view the effect is certainly more pleasing. Considerable additions have been made during recent years to the collections

of hardy trees and shrubs, with the result that during spring, when the majority of these are in flower, the gardens are additionally attractive. The rock garden, too, contains many most interesting little plants, though we cannot do more than mention just a few of them. The yellow flowers of *Biscutella lævigata* (with pretty light green leaves) were nearly over in November; *Ionopsidium acaule* had still a few flowers open; *Bupleurum fruticosum* had flowered well; *Dianthus Knappi* was evident; the Rock Roses were flowering a second time; *Alyssum spinosum*, that is well named; the rare *Acantholimon venustum*, and *Cotoneaster rupestris*.

In the glass houses there is much to instruct and interest both student and visitor; the temperate house, around the pillars of which, as shown in our illustration, *Asparagus retrofractus* forms an elegant covering, has *Dahlia imperialis* in flower, a fine specimen of *Todea barbara* and other cool house Ferns, as well as an excellent collection of tender Conifers. *Hildagoa Wercklei*, illustrated in THE GARDEN of October 6, 1900, was in flower in another house, and the stove contains amongst other plants well worthy of note the remarkable *Begonia venosa*, *Pentas carnea*, *Monstera deliciosa*, *Wormia Burbridgei*, *Hoya carnosa*, &c. In the two houses filled with Cacti we noticed *Kleinia arborescens*, a curious plant that grows in winter only, while in the Ferneries and Orchid houses one might spend a deal of time profitably and pleasantly in examination of the splendid collections there.

We cannot close without a word in appreciation of Mr. R. Irwin Lynch, who has for so long had charge of the Cambridge Botanic Gardens, and has done so much to improve them. Mr. Lynch had an excellent training in the Royal Gardens, Kew, where he worked for over twelve years previous to 1879, the year of his appointment to Cambridge.

Mr. Lynch has done good work at Cambridge in practical and scientific horticulture, as well as in contributing to current literature. The scholarly lecture on "The Evolution of Plants," which appeared in "The Journal of the Royal Horticultural Society," and was read before this society last year, is his latest important literary effort. Mr. Lynch is an associate of the Linnean Society, a corresponding member of the Imperial Horticultural Society of Russia, and was recently awarded a large Veitchian medal for eminent services rendered by him to horticulture.

THE FERN GARDEN.

FERN GARDEN AND FRAMES.

THE natural habitats of most Ferns being broken, sloping, and more or less rocky ground, or the chinks and crevices in rocks, stone dykes, and old walls, it is as well, so far as may be possible, to imitate these conditions under culture, and to instal each species as nearly as may be in similar situations to those it occupies in a wild state. As these are indicated in each case hereafter in connection with the species, we need not specify them here, but merely point out the principles which should guide us in constructing rockeries, &c., for their accommodation.

With few exceptions, despite their need of water, Ferns grow in situations which are so far drained that no stagnancy occurs, and this must be borne in mind. To start a rockery, therefore, the soil of the site, if of a clayey nature, should be thoroughly opened up, and a liberal supply of old brick rubbish piled thereon as a foundation. Upon this a heap of leaf-mould and garden soil, about half and half, can be placed until the mound is nearly a foot higher than is required to admit of subsequent settlement, with a slope to the north or north-east, and, if possible, under the shelter of a wall facing north or trees on the south side sufficiently far away to prevent their roots monopolising the rockery. The mound being in shape, we may now proceed to face it with rude lumps of rock, the more porous the better, or, in default of rocks, with masses of shapeless brick waste, known as burrs, knocking all square corners off with a hammer if the bricks be

too much in evidence. In arranging these lumps, begin at the borders of the mound, digging out a station for each with a trowel, and seeing that it beds itself firmly on its own centre of gravity, otherwise a frosty spell at even the settlement of the mound will lead to unwelcome disturbance after the Ferns are inserted. Use most of the largest burrs or rocks for the corner portions, and carefully avoid any formal arrangement. As we proceed upwards we must leave space for the Ferns to be planted in, and arrange some of the remaining large pieces irregularly about to form somewhat overhanging shelters for such Ferns as the Holly Fern and Parsley Fern, which much like to grow out of stations so protected. The rockery completed as regards construction, give it a thorough drenching, and let it settle down for a day or two. Then when the soil has become workable—i.e., not sticky with wet—plant the Ferns carefully in the space left for them, digging out a spacious hole and spreading their roots close to or even under the burrs, which may be raised up for the purpose; the roots when outspread can have a trowelful or two of compost thrown over them, so that when the burr is let down into its place its possible roughness does no harm. In the small chinks the Spleenworts will be at home, and in the larger stations the other species must be arranged with due regard to size. Ferns requiring special soils should have stations dug out and filled accordingly.

Osmunda regalis, being a bog Fern, must have a peaty station near the bottom of the rockery; *L. montana*, a yellow loamy one, half-way up, and so on, while lime-loving Ferns, such as the Lime-stone Polypody and *L. rigida*, should have a spadeful of old mortar mixed with the soil in these stations. By attending to these

little points a much more comprehensive selection can be grown successfully than if one and the same compost, irrespective of likes and dislikes, be used for all. The early spring is the best time of all for starting a rockery, but in point of fact it can be made at any season, provided care be taken to prevent drought killing the plants before they are properly established. For Ferns with travelling rootstocks, like the Polypodies, a fair space must be left, and in any case it is very unwise to fill the rockery at the outset with closely planted Ferns. If they thrive they will speedily enough be shouldering one another for room, to the great detriment of their individual beauty, hence it is well to plant widely apart, and so defer this evil as long as possible. One other point is the advisability of planting single crowns instead of clumps. If you have clumps of several crowns, pull or cut them all apart, and either plant them separately or give all but one away. The fronds and general development of a single crown Fern always far and away excel those of a member of a crowd.

FRAMES.

For many of the medium growing species, such as the Blechnums, Polypodies, Spleenworts, and Hart's-tongues, frame culture permits the formation of very charming groups where each species is kept to itself, and as the glass prevents much of that weather damage which is unavoidable in the open, such frames can be utilised for small growing delicate varieties of the larger species as well. As regards the frames themselves, any ordinary form with a sliding light suffices, but one 2½ feet high at back by 2 feet or 18 inches in front, according to depth, answers all purposes. A station drained as above, and provided with soil suitable to the species intended to be grown, must be made the size of the frame, which is then simply set on, with the light sloping to the north or north-east, and here again it is well if the midday or early afternoon sun be warded off by a wall or trees. If not, a movable blind is requisite. When the frame is well protected from the sun, the sides of it may be profitably utilised by nailing 6-inch slips of wood at an angle of 45° along them so as to form troughs, or, better still, a few galvanised iron brackets screwed on at the same angle will support 6-inch ridge slates used for roofs to form imperishable troughs of the same size. These being drained and filled with good soil are extremely handy for young seedlings, and take up practically no room. The planting of these frames is a simple matter, and if desired pots can be sunk in the soil as well, though it must not be forgotten that the roots are very apt to penetrate the soil and get broken off if the pots be shifted. Also, bear in mind the warning about close planting; it is not a jungle which is wanted, but rows of pretty plants with unhindered development of these individual variations.

C. T. DRURY.

FALKIA REPENS (L.).

On the "kopjes" of South Africa, in the cracks of rocks fully facing the sun, in Cape Colony, Natal, and the Transvaal, is a very small plant that shines out in the sunlight and brightens the landscape with its little rosy bells. It is a curious little *Convolvulus*, with tightly compacted tufts of greyish foliage, and the appearance of an alpine plant. Some time ago I had seen this plant dried, and had always wished to possess it. It is figured in the *Botanical Magazine* (t. 2228), but I have never seen it represented elsewhere. I did not even know that it was in cultivation (although Paxton describes it as having been introduced in 1774) or concluded that it had been lost. I was just considering whether I could not procure it from some English friends at the Cape, when passing through the cold greenhouse of the Botanical Gardens at Leipzig I found my plant; one specimen only it is true, but in a grand state of prosperity. The director was good enough to let me have a division, and conveying it carefully to Geneva I consigned my treasure to the special care of my head gardener. He carried out his trust so fully that the following year it flowered well, and now our garden possesses quite a fair stock. *Falkia repens* is a little known plant. Is this because it is of insignificant appearance? By no means. It is a charming thing of tufted habit like the little flowery Pincushions that one sees in the high Alps. To look at it no one would think it was an African plant; all who have seen it take it for a new alpine. It is a herbaceous plant not more than 2 inches high, leaves small, ovate-cordate, entire; stalks short, creeping; flowers comparatively large, the size of a thimble; corolla bell-shaped, open, rose colour marbled with white, very pale in the throat. It is a plant of delicate and beautiful appearance, and the abundance of the flowers on the tuft has a charming effect. *Falkia repens* is hardy in the southern parts of France and of England, though scarcely at Geneva, where we have to consider it a plant for a cold greenhouse or a frame. We have, however, succeeded with a few roots that were left out last winter in a sheltered place. It should have a hot, sunny position, and light sweet soil. It is increased by cuttings taken in April and August.—HENRY CORREYON.



ASPARAGUS RETROFRACTUS IN THE TEMPERATE HOUSE, CAMBRIDGE.

AN ARTIST'S NOTE-BOOK.

FLAG-LEAVED IRISES.

WHAT would our gardens be without the many kinds of the Flag-leaved Irises? Though the month of June, when they are in bloom, is the most flowery one of the year, we could not afford to be without them. From the common blue, the earliest to flower and always welcome, through the beautiful procession of the grey-white Florentine, the stately pallida, and then the main host of bronze and yellow, purple and white, they are a daily joy to the lover of good flowers, while to the colour student they provide some of the most instructive of living lessons, and to the more mature artist an unending delight and source of inspiration.

THE FRUIT GARDEN.

EARLY MELONS.

FOR very early supplies the best forcing house should be at command, as it is useless to plant in any house or pit where top and bottom heat are insufficient to maintain growth. I have been obliged at times to get early fruits at all hazards, and have obtained fair results from pot culture, as by this method the plants in their early stages can be given more warmth when placed over hot-water pipes, and much time is saved. There is no gain at all by sowing too early and then allowing the plants to starve in the seed pots. Much better sow at this date, or at any time during the next month, and grow them on without a check. Seed sown now—middle of February—will give ripe fruit at the end of May, and if succession crops are needed I would advise sowing every three weeks from now until August. Pot Melons do well in Pine stoves, and as there are so few Pines now grown in private gardens space may be afforded for a crop of Melons. I have also grown good crops along the front of other houses. Wherever grown remember that heat and atmospheric moisture are essential, as dryness tends to red spider and decay. I have also grown a fair crop on the back portion of a Cucumber pit, the latter crop being over or not needed at the time the Melons were finishing. In all cases at this early season I would advise growing a variety that matures early with a thin skin, and I think the scarlet flesh the earliest, though there are some good white ones usually so.

POT CULTURE

may suit many who do not possess a Melon house proper, and I will briefly describe cultural details. We sow a couple of seeds in 3-inch pots in fairly good soil, place on warm pipes to germinate, but give water sparingly until the plants are well above the soil. Grow them near the light. Of course those who have well-heated beds near the glass will plunge the seed pots, but this is a small matter. If the house is being used the seedlings may be potted



A MIXED GROUP OF THE BEAUTIFUL GERMAN OR FLAG-LEAVED IRISES.

(From a painting by Miss D. M. Stanley.)

on into 4½-inch or 6-inch pots, according to the strength of the plants, but it is well to get the fruiting pots in position. The size depends upon the variety and number of fruits to be cut. I have grown plants in inverted Seakale pots for a large crop, and in 16-inch or 18-inch for a small one, say, two or three fruits on a plant. Of course 20-inch pots may be used, but with such large pots plants cannot be grown on shelves. Another point is whether the plants can be given bottom heat. Many who grow Melons will, indeed, have to rely upon manures as the heating agency, and of the latter I would advise a liberal quantity of fresh leaves, as the heat is more lasting and not so violent. If the heating materials are mixed it is well to have the same in a large heap for, say, a fortnight before placing in position, as if this is done the materials can be put much closer together than in a fresh state. It is also advisable to use manures not too far advanced, but still not too loose or strawy, and the whole made as firm as possible when placed in the bed. If there are hot-water pipes place some thick sods of freshly-cut turf, or even some bricks or tiles, directly over them, before placing the pots in position, and, of course, grown thus little plunging material will be needed to maintain a regular temperature.

COMPOSTS

are most important in pot culture; if too light the results are not satisfactory. Large masses of soil are not needed for Melons at any stage if there is no lack of food when the plants have formed their fruits. Even with pot culture whatever sized pot is used I would at the start allow for later top-dressings, and if only 16-inch or 18-inch pots are used put a good thickness of turf round, and fill in with a richer compost as growth is made. Avoid over rich soils. Melons succeed best in a holding soil; but, on the other hand, I am not an advocate for starving the plants, as some advise planting in poor soil, but if at all poor it is well to add bone-meal or old fine mortar rubble if of a clayey nature. A good soil will promote better growth, and in pots there is no fear of grossness. For beds heavier soil may be used, but even then it is well to add additional materials to promote quick growth. With plants having more root-run rank manure will tend to non-setting, so that by the term additional I mean aids to lighten or improve that advised for pots. These will give short-fruited wood, and cause early maturity. A good plan with Melons in beds is to place half the soil at the start, say a barrow load to three plants, and give the remainder later on by top-dressing. In all cases the plants should be well up to the light, and the soil in beds or pots made firm. Let the planting be done when the compost is well warmed through, and at planting do not bury deeply.

MODES OF CULTURE.

No matter how grown the Melon delights in a brisk temperature at the start—65° at night will suffice, and 10° higher by day—with ample atmospheric moisture. Ventilation should be sparingly applied until the growth is robust; but, unlike the Cucumber, the Melon is benefited by having a little fresh air in favourable weather. Always avoid cold draughts, and close early. Another point is to give tepid water when required, to keep the stems of the plants dry, and to manure as soon as a good set

is secured. It is also well to set the first fruits that form, and to get as many as are required set at the same time or as near as possible. If only one is set this takes the lead, and others fail to swell, turn yellow, and are useless. When the plants reach the first wire they push out laterals. These will show fruit, and the points should be pinched out and the shoots stopped at the second joint above the fruit; the flowers must be fertilised in all cases. Excellent Melons may be produced grown either as single or double cordons if space is limited, and grown thus a smaller quantity of soil will suffice, as it is an easy matter to have three crops of fruit in a season in the same house. G. WYTHES.

Syon House Gardens, Brentford.

TREES AND SHRUBS.

VIBURNUM PLICATUM.

THIS *Viburnum* is very beautiful in the open ground, as when well established it forms a somewhat spreading, flat-headed bush clothed with distinctly plaited foliage, while the globular masses of ivory-white flowers are borne for 2 feet or more along the shoots. Planting a small bed with a few specimens of the plaited-leaved Snowball Tree is perhaps the best way to display its charms. It is not at all of an aggressive nature, hence it can be associated with the smaller growing shrubs if desired. This *Viburnum*, too, will flower most profusely treated as a wall shrub, but it is more suited for a low than a high wall. When grown in this way very little pruning will be needed, otherwise it presents a stiff and formal appearance and the display of blossom is not equal to that produced by a plant which, after it has covered the space assigned to it, is to a great extent allowed to grow at will. This *Viburnum* can be increased by cuttings of the half-ripened shoots taken during the summer and inserted in a frame, or it may be layered, and in this case the low, somewhat spreading branches are very convenient for the purpose. It is also suitable for pot culture under glass; with ordinary care and attention it will produce flowers abundantly, and these remain in beauty a long time.

A NEW FIR—THE CORK SPRUCE.

(*ABIES ARIZONICA* VAR. *ARGENTEA*.)

ALTHOUGH called a "Spruce," this new conifer is really a Silver Fir. It has recently been discovered by Mr. C. A. Purpus in Arizona, at altitudes of 8,000 feet to 11,000 feet, and in a region where severe snowstorms occur as early in the season as October. There is every likelihood, therefore, of its being perfectly hardy in Britain.

Perhaps the most remarkable feature of the tree is its bark. This is of a creamy white or greyish colour, and of a corky nature. It begins to show this corky character in a noticeable degree when the plant is about 4 feet high, and, of course, it becomes more marked as the tree gets older and bigger.

Another beautiful feature of this Fir is its silvery foliage, which is said to surpass even that of *Picea pungens glauca* in beauty. The leaves are about $1\frac{1}{2}$ inches long, and arranged in the ordinary Silver Fir fashion, that is, in two crowded, opposite rows. The plant probably does not as yet exist in a living state in this country; but specimens showing a leafy branch and the curious and beautiful corky bark have recently been received from Herr H. Henkel, of Darmstadt, who has succeeded in importing and establishing in his nursery this promising acquisition.

With regard to the identity and relationship of this *Abies*, it appears to be a silver-leaved variety of the true *Abies lasiocarpa* (of Hooker), which is also known as *A. subalpina*. This is a rare plant in European pineta, the Fir commonly known in gardens as *A. lasiocarpa* (which is one of our most popular and ornamental conifers), being *A. lowiana*. Properly, therefore, this new tree from Arizona should be called *Abies lasiocarpa*

and also provide the dwelling with an abundance of beautiful flowers, but the day is far distant when the superb, stately exhibition flower will cease to be a favourite.

One is compelled to ask whether nothing can be done towards the production of highly coloured novelties. We want good dark crimson Roses of a free-flowering, vigorous habit of growth. It is surprising how the medium or rose-coloured tints have gone out of favour. I remember the time when John Hopper, Jules Margottin, and Victor Verdier were dearly prized, but now the public want either brilliant crimsons, very dark, pure whites, or rich yellows. However, it is not my intention to dwell upon what suits the popular taste so much as what an exhibitor of Roses requires. The beginner in exhibiting can do well without any novelties. He will find ample variety among the old-established kinds. It is the more pretentious exhibitor who welcomes good novelties. He knows how difficult it is to make up his thirty-six, sixty, or seventy-two singles upon any given day, though he may grow his thousands. Looking back a few years one is reminded of the glorious decade in the history of the Rose that



GROUP OF THE CHINESE GUELDER ROSE (*VIBURNUM PLICATUM*.)

var. *arizonica*. We hope soon to figure this new Fir.

THE ROSE GARDEN.

NEW ROSES FOR EXHIBITION.

AMORE accurate opinion can be formed of certain new Roses when they have been introduced some four or five years than can possibly be the case with a brief trial of one year; therefore, in reviewing the novelties introduced since 1896, I can safely recommend to the exhibitor the varieties enumerated in this article. It goes without saying that if some forty or more novelties in Roses are introduced each year only the really good ones remain. Anyone who follows Rose culture closely cannot fail to notice the growing popularity of decorative varieties, Roses that blossom abundantly early and late, that brighten the garden for many weeks in the year,

from 1860 to 1869 gave us the majority of our best dark or medium red show Roses, such, for instance, as Charles Lefebvre, Alfred Colomb, Fisher Holmes, Beauty of Waltham, Dr. Andry, Duke of Wellington, Horace Vernet, Maurice Bernardin, Pierre Notting, Prince C. de Rohan, Xavier Olibo, Comte de Rainbaud, Duke of Edinburgh, Louis Van Houtte, Mme. Victor Verdier, Marie Baumann, &c. Would that we had such another decade commencing with this first year of the new century. I do not see that it is at all unreasonable to expect brilliant colours such as Victor Hugo, Xavier Olibo, or Harrison Weir with the vigorous growth of an Ulrich Brunner or a Mrs. John Laing.

Without a doubt, two of the finest novelties of the last five years are Mrs. Edward Mawley and White Maman Cochet. The former is a grand Rose. I thought I had seen nothing more beautiful than the box of this variety which was staged at Salisbury last June. It is likely to prove a great acquisition. The flower is so heavy as to need the support of a small stick. Knowing what a splendid Rose Maman Cochet is, the white form

needs no commendation from me. It is magnificent, and as valuable as the white sport of Catherine Mermet proved to be. Tennyson is another grand Rose, splendid in form and substance. It is a variety likely to prove of inestimable value to the exhibitor, as it has such peculiarly lasting qualities. Bessie Brown was rather disappointing last summer, the flowers being sadly marred by thrip, &c. But, in spite of this, it is a Rose of splendid form, high-centred and massive, and from its growth I should say it is related to Viscountess Folkestone. It is rather ungrateful of us to find fault with the poor growth of Lady Mary Fitzwilliam, when we reflect how much we are indebted to this Rose and its offspring for many modern varieties, but if we can break away from this type we shall be doing a good work and raise the popular Hybrid Tea class to yet higher estimation.

Mrs. Cocker is a first-rate Hybrid Perpetual of a lovely soft pink colour and beautiful high-centred form, also sweetly fragrant. I admire this Rose because it is so good as a "cut-back." Too many of our show Roses are "best as maidens." This may be all very well for the ardent exhibitor who does not object to his garden being marred with plots of budded stocks, but those rosarians who love an exhibition flower not merely to win prizes with naturally prefer a Rose that can claim more than an annual existence. Ulster is a fine Rose in its way, but I cannot say much for its growth. I am inclined to think that Papa Lambert will supplant it. The latter is a grand Rose, fine high centre, and as fragrant as Marie Baumann. Although this kind is not vigorous, yet it is stronger in growth than Ulster. Antoine Rivoire is becoming much appreciated, and it well deserves it. In its form it is a break from the high-centred flowers. These flat, Camellia-shaped Roses are not to be despised, providing the outline is regular. Mme. Jules Grolez was splendidly shown at Salisbury. It is a very neat flower of a very clear and pleasing silvery rose colour, decidedly distinct from Mrs. W. J. Grant, though somewhat resembling it. Mme. Cadeau-Ramey is, perhaps, one of the finest of the newer Hybrid Teas; the exquisite form and tints are always attractive. I was much pleased with one of last year's novelties, viz., M. Bunel. It has the pretty imbricated form of A. K. Williams, with colours rosy peach, yellow, and rose predominating. Mme. Eugénie Boulet was well shown at Richmond, the warm salmon-rose tint and yellow shading giving this variety a decided individuality. M. Ada Carmody is one of those sterling novelties that are bound to become popular. Whilst resembling Mme. de Watteville in some respects, there is a closer resemblance to Cleopatra in its form, but it is a far better grower. Souvenir de Mme. E. Cauvin is very promising, somewhat of the style of Mme. Cadeau-Ramey. If it is not too double to expand well in a dull season it will be a really good Rose for all purposes. Empress Alexandra of Russia is a wonderful colour, quite a distinct variety among the Teas.

Dark red Roses appear out of place in a box of Teas, even though they be of this class, but bronzy red like the last-named, reddish brown, terracotta, madder, and such like tints serve to accentuate the paler hues. Mrs. F. W. Sandford, a pale blush sport of Mrs. J. Laing, is turning out to be a good acquisition, as was to be expected from such a source. Its one fault is want of fullness, but I saw a really magnificent bloom of it at the Crystal Palace. Waltham Standard is entitled to rank as a standard of form, for it has this to perfection, and its petals are very stout; it is a Rose most valuable to the exhibitor. Urd's Rover, described as a climber, is apt to be overlooked, as one does not usually grow climbers for show purposes; but it is really not a rampant climber, perhaps more a pillar Rose than a climber. Its brilliant crimson blossoms are fine in shape and have good stiff petals. Tom Wood is yet another good novelty of exquisite form, cherry-red in colour, with a whitish shading at times. It is very distinct, of good habit, and valuable to exhibitors. I certainly expect great things from Liberty, perhaps not as a show Rose, although for this purpose it will be a lovely front-row flower, and its

form and colour are perfect. Lawrence Allen is a pink Rose, a colour that our collection is surfeited with, yet it will remain, not only by reason of its form, but also for its beautiful fragrance. J. B. M. Cami appears most promising. I cannot say what this Rose is like outdoors, but, judging from those exhibited last spring, it will prove to be a useful variety. Grand Duchesse Anastasie is quite a distinct Tea Rose, having fine stiff petals of a salmon-pink colour. Beauté Lyonnaise is purely a show Rose. Now and then a bloom is seen of almost snowy purity, and it has fine deep petals; but it is one of those Roses that I would not find a place for in the garden save for the exhibition. Rev. Alan Cheales will be useful at times for show, but it is perhaps more a garden than a show variety; certainly it is very attractive, and doubtless related to John Hopper. Killarney, when cut just at the right time on a cool day, is an exquisite show bloom. It is, however, too thin to be relied upon; for the garden there is no more lovely variety grown. Ferdinand Jamin (H.T.) seems likely to become a good front-row show bloom, and Ferdinand Batel (H.T.) will perhaps be useful for the same purpose. The orange shading at the bases of the petals of this latter Rose is sometimes very intense. Jeanne Forgeot and Josephine Dauphin are two good novelties, but the growth of the first-named is not vigorous.

ROSARIAN.

MISCELLANEOUS.

OLLA PODRIDA.

ROSE COUNTESS RIZA DU PARC.—With regard to this Rose I may say that I have discarded it for a good many years. It is true that its colour is taking and that its habit is vigorous, but it has a very unpleasant way of producing cleft flowers; consequently to an exhibitor it is useless, and, although it may be tolerated as a garden Rose, I think there are others without its defects which are quite as good in colour. It was brought out in 1876, and it must be nearly twenty years since it had a place in my small Rose garden.

Rose Crimson Rambler.—I see that one of your correspondents speaks of this Rose as occupying a place on the wall of his house. I think he has made a mistake in planting it there, for I believe that the experience of most people is that in such a situation it suffers from red spider.

Although I took no part in the notices about

LILIES,

I have probably grown them longer than any of your correspondents; of course, not in large quantities, but still in a considerable number of varieties. I remember visiting Messrs. Veitch and Sons' nurseries not long after the introduction of *Lilium speciosum*, and carried a bulb of it to my home at Bray, near Dublin, and if I am not mistaken I was the first to flower it in Ireland. I cultivated it in my little back garden in Ramsgate, which was about the size of a tablecloth, and carried it from thence with me to Deal, so that I can at least show my continued interest in this beautiful tribe. My facilities for growing them at Deal were very limited. It was not until I came to my present home, thirty-two years ago, that I was able to grow them to my own satisfaction. There are a few kinds which never fail to succeed, while with many of them it is just uncertain whether they will grow or not. I am not at all sure that the dry seasons we have had lately are favourable to the growth of Lilies. One cannot always be watering everything, and I think that in such seasons many sorts, if they do not absolutely perish, lose a great deal of their vigour of constitution by the continuance of drought. There are some species which I grow both in pots and in the open air, and I may at once say that some of those which come from Burmah and other places in the Eastern Hemisphere seem to me almost impossible to grow, even in pots; they do very well for a year or so, and

then, when you proceed to repot them, in the second or third year you find that they perish. I can do nothing with such kinds as *L. neilgherrense* and *L. nepalense*, and I am afraid I must add *L. Lowi*, which seems to be very short lived. Although they are very beautiful I fear that I must discontinue the attempt to grow them. It may be that where their wants can be more carefully attended to than with me they might do better. Leaving then these on one side I will just mention those with which I think I have succeeded. The soil of my garden is light, but when I plant any clumps of Lilies I still further lighten it by the addition of leaf-mould or peat.

Lilium candidum.—There is certainly no more favourite Lily than this. It has always been a favourite with the cottagers, and I could point to numerous places even in this parish—where soil and situation are most diverse in character—where it succeeds admirably, and I have a large clump of it in my own garden which threw up last year twenty-seven stems, many of them carrying from five to seven flowers each, and yet we find continual complaints from persons who are unable to grow it. Why then does it succeed so well with me and others in this neighbourhood? To this I can give no reply; neither I nor my neighbours ever seem to disturb them. Though one might think that a clump the size I have indicated would exhaust the soil, it does not seem to do so. It is no doubt a very beautiful flower, but its odour is too strong for a room, and, indeed, for some persons it is oppressive. I remember once seeing a large centrepiece for a dinner table where it was largely used, and I could not but pity those ladies who had to endure it. Why it should be so capricious in its likings or dislikings I do not know, but the fact remains for all that.

Lilium testaceum, excelsum, or isabellinum.—Taking it all in all I think that this is the most satisfactory Lily that I grow. It is said to be a garden hybrid of *L. candidum*, and is certainly of a most vigorous constitution. My clumps of it grow from 5 feet to 7 feet high, they always flower well, and are altogether very satisfactory.

Lilium Henryi.—This, one of the newest introductions from North China, is certainly one of the best Lilies that we have. It has, I think, been properly described as an orange-yellow speciosum. My clump of it increases yearly; last year one of the stems was between 7 feet and 8 feet high.

Lilium speciosum is another species on which I can depend. The highest coloured, and I think the most vigorous, is *L. speciosum Melpomene*, raised in America. On the other hand, *L. auratum* is one of the most unsatisfactory Lilies in existence. Of course, I can only speak for general cultivation, as there are some few places where it will do well; but it has a habit after the first year or so of breaking off into tiny bulbs which do not seem to be of any use. The *L. platyphyllum* variety is more vigorous and lasting, but I am not quite sure whether it will be as permanent as one wishes. I received a couple of years ago from Messrs. Wallace, of Colchester, a very beautiful Lily which he believed to be a natural hybrid between *L. speciosum* and *L. auratum*. It seemed to partake of both parents; the bulb was more like that of *speciosum* than that of *auratum*; it bloomed the second year after I had it, but did not make its appearance in the third year. On examining the pot in which it was planted I found that it had carried out the traditions of its *auratum* parent, and I saw no more of it.

The old *Tiger* or *Turk's Cap Lily*, which we see in so many cottage gardens, are bulbs which can be relied on, and the improved kinds, *Fortunei* and *splendens*, seem to be quite as vigorous as the older ones.

Lilium Martagon and the varieties *L. dalmaticum* and *L. album* have been rather capricious with me, especially the latter. The finest clumps of *album* I ever saw were in the garden of my late friend, the Rev. F. Tymons, in Drumcondra, County Dublin, Ireland.

Lilium giganteum I once grew, but after flowering it vanished, and as I found on enquiry that this was very much its habit I abandoned its culture.

There are then, in truth, very few Lilies which do well in all situations.

SEEDLING AURICULAS.

Lovers of florist flowers are encouraged by some writers to direct their attention to this subject. Well, during a long life I have esteemed the Auricula as a special favourite, although I have never attempted to raise a seedling. I have, however, watched those who have been engaged in it, and I cannot second the advice which has been given, for how very few have during the last twenty years been added to our varieties, and, supposing you do get a fine grey edged or green edged flower you cannot propagate it as you would wish; you must wait until it throws out offsets, and these are most precarious. I have had a plant of Traill's Prince of Greens which for five years never gave me one, and George Lightbody very rarely gratified me with an offset. Traill's Beauty, it is true, is very prolific, but then it is not a first-rate flower. The same may be said of Colonel Champneys, but neither of these varieties will find favour with a critical connoisseur, and at the present day when so much more attention is paid to what is decorative I do not think many will be tempted to enter on so unpromising a field.

H. H. D.

Zephyranthes candida.

THE claims of this plant have been urged in the pages of THE GARDEN for at least ten years. A coloured plate of it was published in vol. xxxvii. (1890), and I wrote about it then as follows: "This differs from all other Zephyranthes in cultivation in its hardiness and easy management in a sunny border out of doors, where it flourishes and multiplies rapidly. A moist border on the south side of a house is almost filled with it. The soil is ordinary loam, and in two years a single row of bulbs planted 4 inches apart have become crowded tufts, the leaves completely hiding the soil. This border is as gay with the flowers of the Zephyranthes in autumn as any border of Crocuses is in spring. On very sunny days the flowers open quite flat and glisten like snow. Another character which distinguishes it is that of evergreen foliage. Severe frost does not injure it." Dean Herbert recognised its hardiness and value when he wrote: "This plant, conspicuous by its fleshy, semi-cylindrical, and Rush-like leaves, which resist the frost of our usual winters, has ripened its seeds with me after snow has lain upon them for three weeks. The banks of the great river in Buenos Ayres are so covered with it that the river is understood to have been named La

Plata, meaning silver, on account of the profusion of its white blossoms on the shore. I have had seventy flowers expanded at once on a small patch of the plant at Spofforth."

Now, here is a plant for the million. It grows so vigorously that it literally killed a box edging growing within a foot of it. It is as easily manipulated as Shallots, it is evergreen and pleasing to the eye when not in flower, and for the greater part of the summer it flowers as freely as Daisies. It seeds, too, with freedom, and the seeds form plants as quickly as if they were of Onions. Better than Box as an edging, excellent as a carpet-plant, and always beautiful, surely such a plant



ZEPHYRANTHES CANDIDA. (From a drawing by H. G. Moon.)

should be in every nurseryman's catalogue; and yet I doubt if fifty bulbs of it could be found anywhere except at Kew. I am afraid to say how abundant it is there! W. W.

EDITORS' TABLE.

TULIP MONS. TRESON.

Mr. F. Bull, Curator of the Southport and Churchtown Botanic Gardens and Museum, kindly sends a bulb of this beautiful yellow Tulip bearing three perfect flowers. This is unusual.

GARDENING OF THE WEEK.

KITCHEN GARDEN.

SPRING ONIONS.

NO better mode of cultivation can be adopted than the sowing of the principal Onion crop on ground recently occupied by Celery. In consequence of its having been heavily manured for Celery, and moved to a considerable depth twice within the year, little preparation will be necessary beyond forking and levelling, which should be taken in hand as soon as the weather and the state of the soil will permit. A dressing of soot should be given, and

care taken to break the soil as finely as possible with the fork. When the bed has become sufficiently dry it may be made firm by treading and levelled with a wooden rake. It will then be ready for the drills, which should be made 14 inches apart and 1 inch deep. Afterwards sow thinly and cover in with the feet from both sides. The rows may then be trodden carefully along and raked lightly to give the bed a neat appearance. As soon as the young plants are large enough they may be thinned to 2 inches apart, and when a good crop is certain the bed may be gone over again and thinned to 4 inches apart, little further attention being necessary except a slight dusting of artificial manure occasionally. The best varieties for late keeping are Deptford and James' Keeping, and for early use nothing is better than the Reading Onion and Veitch's Main-crop.

AUTUMN-SOWN ONIONS

should be planted out as soon as possible, as they come into use at a time when those of the previous season are either used up or have grown out to such an extent as to render them of little value. Select a rich piece of ground in an open position and

plant in rows 14 inches apart and 9 inches from plant to plant. When they have taken possession of the soil an occasional dusting of soot will greatly assist them to complete their growth. Remove all weeds from the rows, and if the remaining plants have become loose through the removal of those for the fresh plantation, they may be carefully trodden on each side of the row and the Dutch hoe run through them to loosen the surface at the first favourable opportunity.

SHALLOTS AND GARLIC

should be planted at once. Choose light, rich soil, and after forking it over and preparing as for Onions, these may be planted in drills 1 foot apart, 2 inches deep, and 9 inches from plant to plant.

Press the bulbs into the bottom of the drill and cover by drawing soil over them with a hoe or iron rake. No further attention will be necessary until the weeds begin to grow, when the Dutch hoe must be used.

CHIVES

may be parted and planted out in rows 1 foot apart or used as an edging to some other crop. Light, rich soil suits these plants best, and a dressing of decayed Mushroom manure will be of great assistance to them. Tarragon is early on the move, and fresh plantations should be made as soon as possible. It requires a free, light soil and a warm situation, and should be planted 18 inches apart each way.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

CHRYSANTHEMUMS.

If all has gone well with the earliest batch of cuttings by this date, they will have been repotted into 3-inch pots; and if not already removed from their nursery quarters, no time should be lost in doing so. For choice I would advise a brick pit, where just sufficient artificial heat can be afforded in severe weather, but at the same time strictly avoid fire-heat as much as possible, as the slightest forcing into growth at this season is much against the welfare of the plants hereafter. Arrange them on a bed of finely sifted cinder ashes as near the glass as possible. Do not overcrowd, but allow sufficient room between the plants for the air to circulate freely, so that each can be examined for water, &c.

Give air freely as often as the weather will permit, and when possible leave the lights tilted until the last thing in the evening, or even all night, but admit air in the opposite direction when the weather-vane indicates the wind to be north or east. The plants should be sprinkled overhead with the syringe morning and afternoon on bright days, using tepid water. Watering at the roots must be performed with care. Do not water in the morning, on the chance of the soil becoming dry before the next day. Far better look them over twice daily, and when any is given fill up the pot twice. Much better to err on the side of keeping the soil moderately dry than too wet, especially so before the pots become well filled with roots. Fumigate every ten days with XL All Vaporiser, and dust the foliage occasionally with black sulphur. In the case of heated pits not being at command cold frames will suffice, but arrange them in a south aspect, and sufficient care must be taken to ward off sudden attacks of frost.

For some time yet the frames should have long litter or some other frost-proof material placed around them, the lights thoroughly covered at night, and avoid syringing the foliage for at least another month.

SPECIMEN PLANTS.

Every encouragement must be given these to grow away freely, and they may still be retained on the greenhouse shelves as near the light and ventilation as possible. Shift on as the pots become filled with roots, and pinch out the points of the shoots after every third joint is made until the necessary number of shoots is obtainable. The earlier this can be accomplished the better will be the quality of the flowers next autumn. Train out the young shoots as they become long enough. This must be done with exceeding care or the growths will break away at the base. Some varieties, such as the Rundle type, are most persistent in showing flower-buds when struck early. This need not worry the cultivator if these are kept picked out as fast as they appear. In due course they will give way, break into free growth, and make fine plants. Do not attempt over-training, even from the first, but endeavour to allow the plants to assume as natural a habit as possible consistent with a trained plant.

STANDARDS.

Though not so largely grown as at one time, these are of much service for decorative purposes, more especially the Pompon section. I am afraid the over-training which these received at the hands of many helped to bring them into bad repute, and

I must admit that when the shoots and flowers are severely tied down to a wire frame, as far too often used to be the case, they present a crippled and artificial appearance which should not be encouraged. As with dwarf trained plants so with these, an early growth is necessary, and providing it is not unduly drawn they should be run up to the desired height as speedily as possible, when the points should be pinched out. Thirty to forty leads to each plant will be ample, only just sufficient training to enable the heads to be shaped being indulged in. Choose those varieties—both large-flowering and Pompon—with a natural tendency to stand erect when in flower, for the less support these receive at that time the more pleasing will they be grown in this way. For conservatory decoration these lend themselves admirably, arrange them so that they rise from a carpet of Ferns, dwarf Palms, and other suitable foliage plants.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

INDOOR GARDEN.

EXOTIC FERNS.

THIS month should not be allowed to pass without the necessary seasonable work being done to these indispensable subjects, of which Adiantums are the most useful; they should first receive attention. Adiantums require a moderately rich soil, that composed of two parts fibrous loam to one of peat, with a portion of sand and leaf-soil added, according to the texture of loam, and liberal drainage; a dusting of dissolved bones and soot adds the necessary enriching element. Moderately firm potting should be practised, and unless it is intended to grow them into larger sized plants than heretofore the balls of soil should be reduced to the required dimensions; where quantities of Ferns in small pots are required, it is well to chop up into small pieces several of the larger plants, and these when duly started make very useful stock for furnishing. *Adiantum cuneatum* may be put in the fore-front without fear of contradiction. Next, I should unhesitatingly put *A. Pacotti*, then *A. Flemingi*, *A. gracillimum*, *A. amabile*, *A. curvatum*, and *A. Farleyense*; this latter variety is somewhat difficult to successfully grow, but when seen in good form it has undoubtedly a distinct appearance. My best experience with this has been by singling out the crowns, putting them singly into small pots in a mixture of dried cow manure and loam, with as much sand and mortar rubble as will keep the whole open; water until fairly started should be sparingly given. Next to the *Adiantum* in point of usefulness I should put the *Pteris* family; these, without making exceptions, are mostly all useful, and though catalogued as greenhouse subjects, a start in the warmer quarters, especially when newly potted, is most beneficial.

CANNAS.

These being cut into convenient pieces should be potted up and stood in comfortable quarters; a rich, somewhat porous compost should be given and pressed well home about the roots, and water withheld until root action is apparent. Cuttings of *Pandanus Veitchi* must now also be put in; these develop at the bases of old plants, and should be pulled off, neatly dressed, and placed round the edges of small pots filled with leaf-soil, peat, and sand, placed in a propagating case; a batch of *Gardenias*, and also of *Ixoras*, should find a place in the quarters for rooting cuttings.

GLORIOSA SUPERBA.

A few pots, according to requirements, may now be made up; loam, peat, and sand are the three essentials here; the corms—if I may use the term—should be laid about 1½ inches under the surface, and water must not upon any condition be given until growth shows through; moisture in the atmosphere, however, they should have.

I start *Calla elliotiana* in a stove temperature, and always have the best possible results; a rich soil is given when once fairly started; a good position near the glass should be afforded it.

The pans in which *Achimenes* and *Tydeas* have been growing being usually required for seed sow-

ing, the corms should be shaken out and stowed away in dry sand until the time again comes round when they are required. No stove collection is complete without the *Alcasias*, their beautifully marked leaves being always admired. In potting these, rough pieces of peat and loam, with abundance of charcoal, must be used, and the majority of them being surface rooting the receptacles used must be filled to a little more than half their depth with clean drainage, over which is a thick layer of moss. *A. thibautiana*, *A. Veitchi*, *A. sanderiana*, *A. intermedia*, *A. Chelsoni*, and *A. watsoniana* are the best known to me. The flower spikes of *Clivias* will now be showing, and any cleaning of foliage or pots necessary should at once be done, and the plants placed in the positions in which they are to flower. The old form *C. miniata* has had to give place to the finer forms now before the public.

Part of the stock of *Ficus elastica* should be propagated. I find that splitting the stem the desired length, and placing sand and moss against it, is the most expeditious mode of rooting, for if given stove temperature, and the moss kept well moistened, about three weeks will find the tops ready for removal to small pots.

J. F. McLEOD.

Dover House Gardens, Rochampton.

FRUIT GARDEN.

PINE APPLES.

THESE fruits are now grown in so few gardens, owing to the large importations from abroad, that little cultural advice will be needed, but it is well to remember that imported fruits cannot compare with our hothouse specimens, and I trust that home-grown Pines will still find a place in our large gardens. Now is a good time to give the stock of plants more attention in both the fruiting and succession houses; during the winter these plants have been kept quiet and given a lower temperature, but with lengthening days and more sun heat growth will be more vigorous. The strongest plants of the Queen section in their fruiting pots may now be treated more liberally; indeed, it is well to go through the stock and select plants likely to show fruit in a short time. If this is done, these may occupy a separate pit, and it will then be easier to give them a higher temperature and keep the house moister in bright weather. Far better start a few of the strongest plants than have a glut of fruit later on, as is often the case when all are left to come in later. There can be no question as to the value of the Queen variety for early supplies. This ripens up more quickly than others. The temperature for fruiting plants may now be from 80° to 85° by day and 10° lower at night, or a few degrees less both day and night in cold weather. Overhead syringings might be given sparingly till the Pines are set. It is not desirable to have the axils of the leaves full of water at this season. As soon as the plants are showing fruit assistance may be afforded in the way of fertilisers, but it is well to proceed cautiously and not to water or manure too freely at the start.

SUCCESSION PLANTS.

These may be potted and a little more warmth given when the work is completed. Avoid over-potting; indeed, should any of the plants be at all weakly, repot in the same size or even smaller pots, placing them at the warmest end of the house for a time. The compost should be prepared some little time in advance of potting to get warmed through, and should consist of three parts good turfy loam and some peat in rough pieces; to this may be added a small portion of decayed manure and some bone-meal if the plants are strong and healthy. Pot firmly, give plenty of drainage, use clean pots, and allow more warmth in the bed and house to encourage new growth. Water sparingly for a time, but maintain a moist, growing atmosphere in all parts of the house; keep the evaporating troughs filled, and allow the temperature to rise freely by sun heat, closing early to save hard firing during the day.

BANANAS.

Like Pine Apples, we keep fruiting plants of Bananas as quiet as possible during the winter

months, but now more liberal treatment may be afforded. There is no doubt whatever but that pot plants are more easily managed than those planted out. As regards the latter, if at all large, it is a difficult matter to prevent their fruiting in winter, and I note winter fruiters are never so good. With bottom heat there is less trouble, but I find pot plants push up more freely. The temperature for *Musa Cavendishi* during the winter has not often exceeded 60° at night, a few degrees lower in cold weather, and 65° by day. This may now be increased and tepid liquid manure given, also rich top-dressings as soon as the fruit appears. The plants delight in atmospheric moisture, but avoid excessive syringing overhead, as this is apt to decay the centre of the plant. Syringe from underneath the leaves. Succession plants should now be potted on or planted out; pot firmly, using a rich compost, and give good drainage. Suckers should be detached from fruiting plants, but the work must be done carefully so as not to rob the parent plant of its roots. The suckers will soon form new roots if a little bottom heat can be afforded.

G. WYTHES.

Syon House Gardens, Brentford.

RECENT PLANT PORTRAITS.

THE June number of the *Botanical Magazine* contains portraits of the following five plants:—

Agave Peacockii.—A native of Central Mexico. It is a handsome green-flowered species which bloomed for the first time at Kew in 1899, producing a flower-spike 14½ feet high.

Neillia Torreyi.—A native of the Rocky Mountains, also known under the synonyms of *N. malvacea*, *N. monogyna*, *Spiraea monogyna*, *S. opulifolia*, *S. pauciflora*, *Physocarpus Torreyi*, *Opulaster malvacea*, and *Epicostorus montanus*. A free-blooming hardy shrub producing dense clusters of pure white flowers with red stamens, resembling those of the Hawthorn.

Veronica glauca.—A native of Greece, also known as *V. græca* and *V. amœna*. A pretty little species found in the sandy fields of Attica with small blue flowers, which change to purple before they fade.

Echidnopsis Bentii.—A native of Southern Arabia. A plant of merely botanical interest with small red flowers, requiring the temperature of a warm house. Collected by the late Rev. T. Bent.

Rosa Seraphini.—A native of Italy. It is also known as *R. apennina*, *R. cretica*, *R. glutinosa*, *R. graveolens*, and *R. parvifolia*. A pretty little dwarf Rose of peculiar habit, with small, deep rose-coloured, single flowers. It is also found in Corsica, Sardinia, and Sicily. It is closely allied to *R. agrestis*.

The first number of the *Revue Horticole* for February has a portrait of a pretty epiphytal Orchid, *Laelia grandis tenebrosa*, which in a wild state is found growing on the branches of trees.

The *Revue de l'Horticulture Belge* has portraits of *Kennedya andomariensis*, an exceedingly bright and pretty little greenhouse plant from New Holland, with deep rose-coloured, Pea-shaped flowers, and *Begonia Gloire de Lorraine*, the now well-known and most profuse winter-blooming ornament of our warm greenhouses raised by M.

Lemoine, of Nancy. It is a hybrid between *B. socotrana* and *B. Dregei*. W. E. GUMBLETON.

SUMMARY OF WEATHER NOTES FOR JANUARY.

A VERY unsettled and rather dry month. The new century commenced with 5° of frost and seasonable weather, frosty nights, and fogs; wintry second week and 20° of frost; sudden thaw on the 10th, followed by a very dull, gloomy period, with dense fogs and raw cold atmosphere. Another cold snap of frost for three days, ending on the 15th with a rapid thaw, and dull, showery, and stormy week followed. Fair and milder later; very stormy on the 26th. The last week was fine and sunny, with hoar frosts and showers of hail and snow. The mean temperature for the month was about the average. Sunshine was registered on sixteen days; rain or snow fell on nineteen days, and frost occurred on eighteen days. The maximum temperature in the sun was 60° on the 10th; ditto, shade, 51° on the 21st. Minimum, 12° on the 8th.

		inches.
Total rainfall, January, 1901	...	1.17
	1900	3.08
Average " (Windsor)	...	1.75

Windsor.

OWEN THOMAS.

PINK EDGINGS.

THE accompanying illustration shows the beauty of the mixed border when it is mar-



MIXED BORDERS WITH PINK EDGING AT WINCHFIELD.

gined with Pinks and the walk is of grass. Any hard edging in this instance would have spoilt the picture, and those who contemplate alterations now in the margin or actual formation of the border should remember the importance of massing together good things, with a careful sequence of colouring. Of all flowering plants the Pink is among the most satisfactory; its drifts of blossom appear in June, and in the winter we get the full value of the silvery foliage, which is almost as precious as the blossom of summer. The old fringed white kind has almost gone out of cultivation, but I prefer it to the big-bloomed kinds, such as Mrs. Sinkins. T.

CORRESPONDENCE.

PRONUNCIATION OF PLANT NAMES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—With all proper respect for the editorial opinion, I venture to dissent from it on the one point of the right pronunciation of *Gladiolus*. This word does not stand quite on all fours with your other examples. It is scarcely correct to say that it has received "a generally accepted convenient English pronunciation," my own experience being that quite as many people put the accent on the third syllable as on the second, while a few accent the first. Uniformity is desirable, and if the original Latin pronunciation coincides with what you rightly observe is the English usage of throwing the accent as far back as possible, we shall do well to retain it. Now we have satisfactory proof how the Romans pronounced words of several short syllables like *Gladiolus*, containing "i" before another vowel. Amongst others, *abiete* and *pariete*, ablatives of *abies*, a Fir tree, and *paries*, a partition wall, are pronounced by Virgil—and his was assuredly the current pronunciation—as trisyllables, *abiete*, *pariete*. The "i" was consonanted, as grammarians say, the "ie" being sounded as "ye," as our yes, and the accent laid on the "a." Similarly *Gladiolus* was *Gladyolus*, the "a" being accented and the "io" pronounced as one syllable, like "yo" in our yonder. I entirely agree with you that where the Latin or Greek accentuation runs altogether counter to English habit, as in your instance *Aristolochia*, the English may rightly prevail. Indeed, such words as orator and senator teach that the native tongue cannot be denied; but in the instance of *Gladiolus* there is no such opposition, and I am but upholding your own principle. When we throw the stress of the voice back to the "a" we are speaking as Romans spoke and as Englishmen speak. GEORGE ENGLEHEART.

SIR,—Horace, in his "Ars Poetica," v. 71, rightly tells us that usage and fashion can and will make any change they please in language.

"Si volet usus,

Quem penes arbitrium est, et ius et norma loquendi," and we know this to be true both as to the meaning and the spelling and the pronouncing of words. However, I hope and believe that fashion will never sanction such a pedantic pronunciation as *Gladiolus* for the time-honoured four-syllable word *Gladiolus*. Your correspondent divides the word into three *glad-i-o-lus*—intending, I suppose, to pronounce the "io" as "yo" in yokel. Well, this pronunciation may possibly be classical; we know too little about the sounds of Latin in the Augustan age. It is true that words, such as *ariete* from *aries*, *abiete* from *abies*, consisting of four short syllables in prose, are made by Virgil to do duty as dactyl trisyllables in verse. Still, it seems better to me to accept the traditions of Latin teaching and to pronounce Latin words as they have always been pronounced by most scholars from English public schools at Oxford and Cambridge. In my university days—now more

than half a century ago—I think that nine out of ten scholars would have said *Gladiolus* (and *rhodiola*, *modiolus*, &c.) rather than *Glád-i-o-lus*, &c., which must either be pronounced as a word of three syllables, or the first three syllables must be made into a dactyl, for three consecutive syllables cannot be pronounced without consciously or unconsciously accenting one of them. We constantly meet both in botanical and in classical Latin with words of four short syllables, and in pronouncing these the accent almost without exception falls on the ante-penultima—or last syllable but two—for example, *nenophila*, *polygala*, and such good classical words as *Caligula*, *patibulus*, *phaseolus*, and *Cilicia*. In these words rules of prosody must yield to exigencies of pronunciation, otherwise what are we to do when five short syllables come together as in *Macedonia*, or six as in *Mesopotamia*? But I endorse your view that however Virgil and Cicero might have pronounced *Gladiolus*, which we do not know, *Gladiolus*, accenting the "i," has been sanctioned by long usage amongst educated people in England. If we are to prefer prosody to usage, how about such words as orator, senator, origin, &c.? And why, except from usage, and because the words came into English not directly from Latin but through French, are we to neglect the Latin pronunciation whilst we adopt the Latin spelling? Your illustration of the subject by English usage in plant names such as *Anemone* and *Hypericum* is much to the point, and I may add another common name, *Veronica*, which is obviously only another way of spelling the old Greek name *Berenice*. In these names we have the accent on the ante-penultima. This is the general rule in English if three or more short syllables come at the end of any word, and if the word is lengthened we transfer the accent accordingly, as botany, botanical, philosophy, philosophical, and so on *ad infinitum*.

I intend to protest to the last, as I have already done many times, against *Glád-i-o-lus* whenever I hear it. Of the two I should prefer *Gladiólus*, and it is more likely to become sanctioned by use than the other. To sum up, if it is argued that *Gladiolus* and the other words I have mentioned with it (including *petiolus*, a small stalk, an old Latin word), ought to be of three syllables, I only say that it is contrary to the usage of educated English; but if they are allowed to be four short syllables, why is the rule of pronunciation to differ from that of other Latin or English words of four syllables, especially diminutives in "ulus," as *calculus*, *pediculus*, *manipulus*, *acidulus*, *puerulus*, and others? How do the advocates of *Gládiólus* pronounce *Antiochus*, *Calliope*, *Antiope*, &c.? The reason for pronouncing the "i" short applies *a fortiori* to these words. C. W. D.

MISTLETOE AND MISSEL THRUSH.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I read with much interest Mr. Engleheart's able and good-natured criticisms on the etymology of the word *Mistletoe*. He might, perhaps, like to know my authority for the reading I suggested. It is Dr. Brewer, in his "Dictionary of Phrase and Fable." As a rule Dr. Brewer is to be depended on. I must say, however, that Mr. Engleheart's derivation commends itself greatly from its simplicity, but one would regret to sever the long-existing association between the plant and the bird. This is what the Rev. F. O. Morris says about the misel or *Mistletoe* thrush in his "History of British Birds," vol. v., page 39. "This species was imagined by the ancients to have a peculiar fondness for the berries of the *Mistletoe*, of which, indeed, it was supposed, according to the old proverb *Turdus maturu sibi*, to be a sort of foster-parent." He, of course, dismisses the idea that the bird feeds entirely on *Mistletoe* berries. The misel thrush is also very partial to the berries of the Ivy, Holly, Yew, Juniper, and other trees. We have just been proving the truth of this for ourselves. Encouraged by the mild weather, a misel thrush close to our domain began singing on December 14, and sang on all through the December storms till the cold snap of January silenced his merry tune. Well had he earned his

other name of "storm-cock." A goodly bunch of *Mistletoe* had been hung among the branches of our best Apple tree, in the hope of enticing him to it, but our beguilements were in vain; there was far too bountiful a supply of other berries about. He was saucy, like the tits, this generous year, who turn up their beaks at suet, and are not to be coaxed with the *Cocoanut*. I think myself that *Mistletoe* berries are often deposited on the bark of trees in another way, much more efficacious than mere droppings. The method shall be described in the words of a writer whose name I do not know, but who is apparently a close observer. Speaking of the *Mistletoe* plant and of birds and their agency, he says:—"These devour the berries eagerly, the misel thrush especially, which, after eating the pulp, rubs its beak against the branches to rid itself of seeds, and thus effects their lodgment in the tree." This idea has a ring of truth about it; one can almost see the bird doing his dainty work, and bird lovers may join hands with plant lovers and etymologists in enjoying the possible result—a *Mistletoe* bough. F. A. B.

STREET TREES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—There can be no doubt but that between the admirer and planter of trees in town streets and the dwellers, especially shopkeepers in such streets, there is not infrequently much difference of opinion. So much depends on whether the streets are narrow or wide, and of what uses the houses on either side are put; but in the majority of town streets are narrow, and houses are close to the side footpaths. Trees in such cases are at once much out of place and a nuisance. In such streets all possible light and air are needed, and any obstacles to the admission of these elements or to ordinary locomotion are objectionable. In the autumn the falling leaves are offensive, dirty, and unhealthy. Where trees are so found the heads have to be practically maltreated annually to keep them in check, and we may see for months in many even of London suburbs, where trees have been injudiciously planted, in defiance of the fact that there was not space to enable the stem to naturally develop, what can only be described as tree scarecrows, so ugly and disreputable in appearance are they. Surely there can be found no aesthetic reasons for having trees in such places, because all beauty, even were it possible under any circumstances, is destroyed. In very many cases we see trees planted in residential roads where houses are set back some 20 feet to 30 feet from the pathway, but in nearly all these cases trees and shrubs have been planted in their forecourts, too often far too thickly, and the planting of others some 5 feet or 6 feet from these simply aggravate the thickness and does no good, adding nothing to beauty. Where streets or roads are very wide, say from 45 feet to 50 feet, and there are broad footways, trees here and there may not be out of place; but whilst if planted on the margin of the streets they obstruct vehicular traffic, if planted on the margin of the footways, which are habitually paved or asphalted, the roots are unfortunately placed out of reach of air and moisture, and it is no matter for wonder if the foliage decays and falls so early in the autumn. It is really marvellous, remembering how all top moisture is prevented from sinking into the soil through paving and granite roads, and also the innumerable drains, sewers, pipes, &c. that run under the roads, paths, &c., that trees exist as they do. To have street trees in full beauty, and where they can be really utilised for shade and enjoyment, streets should be 60 feet wide at least, a double line of trees may then be planted down the centre of the street, the rows 12 feet apart, and beneath them a pleasant gravelled promenade, through which rain could freely percolate, that would constitute a delightful walk and furnish no annoyance to residents; that would allow roadways some 24 feet wide on either side, and accommodate enormous traffic as that on each side would be all going one way. But where may we hope to find streets between kerbs 60 feet wide? Certainly not in ordinary towns. Of the various town trees the Oriental Plane seems to be the most suitable.

Some kinds that have been planted have proved to be lamentable failures. Whatever trees may be planted they should be such as would bear hard topping about every three years, and the topping should be done in March as the stems then soon produce new shoots. I find generally topping consists in cutting every summer shoot hard off in November, leaving the trees very ugly for some five months.

A. D.

PINE APPLE BRACAMORENSIS (CHARLOTTE ROTHSCHILD.)

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Mr. Beale's remarks about the fine Pine Apple *bracamorensis*, figured on page 443, are interesting to me, and his belief that it is little known by English Pine growers is well founded. It is a question if the variety is in commerce in England. The fruit exhibited at the Crystal Palace show was a remarkably fine one, deep orange in colour, and perfectly sound. Some very large varieties, Lady Beatrice Lambton, for example, are disposed to decay at their base before their top is perfectly ripe, but *bracamorensis* does not appear subject to this defect. Mr. Beale did not refer to flavour—a very important point in any fruit. A new Pine Apple is a comparative rarity, and this fine variety would have been greatly appreciated some years ago, when the Pine was more grown than it is now, although new kinds have not made much headway against The Queen and Smooth Cayenne. Charlotte Rothschild, for instance, was distributed with much promise, but has never been extensively grown. The first time I saw it fruiting was at Duporth, Cornwall, some thirty years ago. It is a good kind for winter use, keeping well after it is ripe, and of good flavour even in the dull season. It compares favourably with Smooth Cayenne in these respects. The reason of its not being more grown may, perhaps, be rightly attributed to the spiny character of its leaves, together with the opinion that it is not so easily grown as some kinds are. There need be no difficulty about this, however. We grow it and Smooth Cayenne together under identical circumstances, and each succeed equally well. If we have to complain about either it must be Smooth Cayenne, for we have occasionally found amongst its fruits a black-hearted one—a defect that we have at no time experienced with C. Rothschild or The Queen. Charlotte Rothschild does not appear to be grown abroad for exportation, but doubtless it would succeed there equally as well as Smooth Cayenne, which is much cultivated for that purpose. A gentleman (a member of an American Pine Apple Plantation Company) who called here last year in order to see our mode of growing the Pine Apple, said that he had not even heard of C. Rothschild, and remarked that its spiny nature would prevent it from becoming as popular as Smooth Cayenne had, however well it might succeed.

THOMAS COOMBER.

The Hendre Gardens, Monmouth.

HARDY FRUITS IN SEASON.

AMONG the best varieties of dessert Apples for the winter season are the following: Ribston Pippin.—As a Christmas and January Apple this is one of the oldest, most popular, and best known, and still deserves all the good things said of it in the past; it is in season from October to the end of January. As regards flavour it is second only to Cox's Orange Pippin. Unfortunately, the tree is not a strong grower, neither is the variety suited for an orchard, except in favourable and warm localities. Worked on the Paradise stock it succeeds well as a bush or pyramid, but any one wishing to grow fruit for exhibition purposes should plant single or double cordon trees against a wall with a west aspect. No garden should be without a few trees of this fine old sort.

Scarlet Nonpareil.—As a February and March

dessert Apple this variety for flavour is to be preferred to any other I know. The quality of its flesh is moderately soft, juicy, and of a creamy colour, and the flavour is decidedly refreshing and deliciously sweet. It is of handsome appearance and medium size; on the sunny side it is deep red in colour with tiny white spots, and shading down to gold on the opposite side. Truly a beautiful and invaluable Apple for this late season. The tree possesses a strong constitution, bears regularly and abundantly—so abundantly indeed that in most seasons half the fruit has to be thinned off.

Pearson's Plate is a comparatively little known Apple, but should be included in every collection, however limited, as one of the best flavoured late Apples we have. It has only one fault (if fault it be), it is rather small; not unlike King of the Pippins in shape, outline, and eye, but smaller and of a darker russetty colour.

Allington Pippin.—A comparatively new introduction and no doubt a variety of sterling merit, one of the most delicately beautiful Apples we have, a fine and abundant cropper, and a variety that comes into bearing earlier

dessert varieties the newer, but now generally popular, James Grieve, might with much acceptance be added. This is equally as free bearing as Worcester Pearmain, of much superior quality, distinct from it in colour, being beautifully mottled with red upon a yellow ground, and continues in season from early in October until Christmas. A plant grafted upon the English Paradise stock was sent here for trial twelve years ago. It fruited the second year after, and has continued to bear a full crop every year since, so that at present the tree, instead of exhibiting an upright habit of growth as of younger trees, has all the outer branches of pendulous form. As a bush, cordon, or espalier trained it has proved one of the best Apples in cultivation.

To the cooking sorts for mid-season use Stone's Apple, or Loddington Seedling cannot be passed by, as it possesses all the necessary qualities required in a first-class fruit. The habit of the tree is not favourable to the formation of a handsome pyramid, but for a standard or bush it can, by checking any straggling disposed shoots in their early stages, be induced to form very shapely and fruitful trees.

Among the late dessert Apples Court Pendu Plat and Duke of Devonshire are too small to be of much value, even in private establishments, while Sturmer Pippin I have never in any season found to be worthy of cultivation. Good substitutes for



APPLE CHRISTMAS PEARMAIN.

(Size of original: Height 3½ inches, width 3 inches.)

than any I know, but its flavour as grown here is only second rate. Its season is from October to the middle of January. Another introduction of recent years, Christmas Pearmain, is a welcome addition to our winter dessert Apples. A true Pearmain in outline and appearance, not unlike Adams' Pearmain, but larger and finer. The tree is a good grower and a most abundant bearer. The flavour is good, and it is one of the most handsome Apples in our fruit room at the present time. This should prove a splendid market Apple. OWEN THOMAS.

BEST APPLES FOR BRITAIN.

AFTER several years' acquaintance with the variety Mr. Gladstone, I consider it the best early variety. Like most early sorts it will not keep long when ripe, but it crops freely and regularly; the fruit is of high colour, and in my opinion unsurpassed for quality in its season. Beauty of Bath surely merits a place in the early section, for, although somewhat later than Irish Peach in ripening, it has the great advantage over that variety, in the north at least, of being a more healthy grower and less subject to fungoid diseases, which often disfigure the fruit of the latter, while it will keep in good condition double the length of time when ripe, either upon the tree or when gathered. To the mid-season

these would be Fearn's Pippin, Scarlet Nonpareil, and Reinette du Canada. The first-named is rather small, but high colour, good shape, and long keeping qualities atone for this. Galloway Pippin would worthily augment the list of late cooking sorts, as this in many northern gardens is the rival of Wellington and Bramley's Seedling, and, speaking for this place and district, I can, after twenty years experience, confidently recommend it as superior to both, and it possesses the advantage of being useful for dessert from January to April.

JAMES DAY.

Galloway House, Garliestown, Wigtownshire.

[This note has unavoidably been held over for some time.—Eds.]

Obituary.—We are very sorry to hear of the death of Mr. Andrew Mitchell, partner in the well-known firm of Messrs. Dobbie and Co., Rothesay. Mr. Mitchell died suddenly of internal hæmorrhage.

Spring number of "The Garden."

—Our issue for February 23 (next week) will be devoted especially to spring flowers, and many practical articles have been contributed to it. Mr. Divers, head gardener to the Duke of Rutland, Belvoir Castle, writes of spring gardening, while views of Dover House, the residence of J. P. Morgan, Esq., Roehampton, will appear, besides the ordinary

pictures of the journal. Illustrations of *Pinus muricata*, Poppies in the woodland, Otaheite Orange, a new Gentian, Messrs. J. Carter and Co.'s Chinese Primula house, &c., and articles by Mr. R. Irwin Lynch, of Cambridge Botanic Gardens; Mr. W. J. Bean, of the arboretum, Kew; Mr. Crump, of Madresfield Court Gardens; Mr. Beckett, Mr. Fyfe, Mr. Wythes, and many others.

Cacti and how to grow them.—This is a useful little treatise upon Cacti, by that well-known grower Mr. Wm. C. G. Ludford, Fern Lea, Four Oaks, Sutton Coldfield, near Birmingham. It is illustrated, and the price is 6d.

Sutton's Farmers' Year Book.—This annual has been published continuously since the early years of the nineteenth century, and its appearance is always welcomed by agriculturists. A most interesting feature is noticeable in the present issue, viz., reduced representations, in natural colours, of many grasses indispensable to the production of good pastures. An excellent calendar, records of remarkable crops, and much other useful matter is given.

Scottish Horticultural Association.—Will you allow me to point out an error in your report of the above association. My brother, D. P. Laird, was the first treasurer of the Scottish Horticultural Association, and Mr. Alex. Milne the first secretary. I succeeded Mr. R. B. Ferguson ten years ago, and I think it is right these gentlemen should get a share of the credit of the success of this association. The secretarial duties had increased so much that for business reasons I had, reluctantly, to resign.—ROBERT LAIRD, *Edinburgh*.

A reminiscence.—The following passage occurs in a letter written by the late Queen to King Louis Philippe, dated Osborne, August 17, 1846: "The Potato disease is unfortunately again appearing, and will be worse than it was last year."

A gardening book for beginners.—A beginners book about gardening, comprehensive and with diagrams and full-page illustrations, will shortly be published from this office. It has been written at the request of many would-be gardeners by Mr. Cook, joint editor of *THE GARDEN*, and its price will be 10s. 6d. nett. A preface has been written by Miss Jekyll.

Presentation to Mr. G. Nobbs.—The head gardener at Osborne, Mr. G. Nobbs, was recently the recipient of a valuable scarf-pin from His Majesty King Edward in appreciation of his services lately rendered.

Snowdrops.—The first Snowdrop was rather later with me than usual this year. I have always had them in bloom in the first week in January, but this year none made their appearance before the 11th. With me *G. Elwesi* generally beats *G. nivalis* by a week or ten days, perhaps because it has the better position. *G. plicatus* varies a good deal, but is always a good month later than either of the above. It has not yet bloomed, neither has the newer *Ikarie*, well shown at the Drill Hall lately. This seems to be a mid-season variety. Some bulbs planted in the early autumn are only just breaking through. I find that the damper and cooler the soil, the better suited is it to these favourites; in fact, they die in the hotter portions of my garden.—H. E. M.

Begonia Gloire de Lorraine.—I was much pleased with your fine illustration of the *Gloire de Lorraine Begonia*, and greatly interested in the accompanying data concerning its origin and dissemination, and especially with your careful advice as to its culture. The plant has created much interest among florists here of late. Its surprisingly floriferous habit and bright showy colour makes it very saleable and valuable to the plant seller, who can get good prices for it. I know of nothing more attractive to the average buyer, and it proves of great commercial value. All honour to M. Lemoine, the fortunate hybridiser of this comparatively new flowering plant. It is still quite new on this side, and unknown to many florists I think, though brought over some two or three years since. But its glory will not remain hidden. Of course, more green foliage interspersed between the flowering sprays would give it added

beauty in the eyes of many people. But in this case Nature prefers to make a crown of bloom, and treats the plant as of secondary consideration to the display. And who will care to quarrel with her in all these charming and varying moods? It may be said that M. Lemoine was an important factor in this little creation, and hence the freak in habit, as we may please to call it. And yet Nature is always the presiding genius, and whatever happens in the vegetable kingdom is by her august permission. Let us continue to admire this new *Begonia*, as we do and shall more and more as its qualities become better known. I trust it may prove well adapted to the window-shelf, as florists now predict.—H. HENDRICKS, *New York*.

Iris tingitana.—We do not wonder that "C. W. D." (page 90) searched through "Bradshaw" and the "Official Postal Guide" in vain for Camperdown, the home of our correspondent with whom *Iris tingitana* flowers so well. This gentleman lives in Australia, a fact we omitted to state at the time, and which omission we are afraid has caused "C. W. D." much trouble and fruitless search.

A Note from Nice.—A correspondent of *THE GARDEN* kindly writes us: "I have seen no notice in the English papers of the wreath sent from Nice by the English colony to the Queen's funeral. It was of such exceptional beauty that even in the multitude of them it deserved notice by connoisseurs. Mme. Duluc-Alphonse Karr's successor made it, and it was a labour of love for her. One half of the wreath was of Lilies of the Valley, the other had a ground of Parma Violets with *Cypripedium insigne* blooms grouped on it (all of the yellow-ground type). A magnificent cluster of *Cattleya aurea* headed the broad ribbon that crossed the circle with a knot. I should think *Cattleya aurea* in quantity was unknown at this season till it was found how well it grew under glass on the Riviera. I do not know how the extraordinary accounts of snow on this coast got into the paper. There was heavy snow at Marseilles, and the Olives in the Rhone valley may have suffered, but there has been nothing that I have heard of anywhere between Toulon and Genoa, save that the frost there was very intense for a few days. It is still bright and keen here, but no frost to do any damage to the newly pushing shoots."

Mr. Reginald Turner, the son of Mr. Harry Turner, of the Royal Nurseries, Slough, has joined the Imperial Yeomanry, and, we believe, sails shortly for South Africa.

Exhibitions on the Continent.—Two large exhibitions will this year be held by the Royal Horticultural and Agricultural Society of Antwerp, the one from April 13 to 15, the other from November 16 to 18. The secretary's address is 9, Rue de l'Hôpital, Anvers. The next spring show of the National Horticultural Society of France will open on Wednesday, May 29, and close on Monday, June 3.

SOCIETIES.

BECKENHAM HORTICULTURAL SOCIETY.

ON the 1st inst. Mr. Cogger read a paper on "Crotons" before the members, dealing with his subject from the cutting to the exhibition specimen. It would seem that heat and moisture are the most important factors in their culture. To obtain high-coloured foliage only a slight shading should be used in hot weather.

SHERBORNE GARDENERS' SOCIETY.

ADDRESS ON GROWING FROM SEEDS.

THE monthly meeting of the Sherborne and District Gardeners' Society was held on Thursday week, when there was a large attendance, presided over by Mr. J. Dean. Mr. Crook, gardener at Forde Abbey, delivered an address on "Seeds," in which he urged the advisability of plants being grown from seeds in preference to cuttings or other artificial methods of propagation. Still in seed growing the natural environment of the plant, the proper preparation of the land, and the sowing of the seed at a depth and under conditions which suited it, must be regarded. Plants which were imported into this country would not and could not seed because they were separated from those conditions under which they grow naturally; whilst in other cases the failure to germinate arose from improper sowing or from improper keeping of the seed. Every tree, plant, and other product—an Oak, an Ash, a forest tree, an Apple, a

bedding plant of any kind—was, he claimed, stronger when grown from seed than when propagated from cuttings or in any other manner. He did not ask the members of that society to grow from seeds where their employers desired the propagation of any particular plant or plants from cuttings; but he said that while plants might be advantageously reproduced from cuttings under certain circumstances, they could for purposes of general out of door display be grown far more effectively and cheaply, and the plants would possess greater vigour if they were raised from seed. Herbaceous plants propagated by means of cuttings or grafting or other artificial process were, for example, never so vigorous or so satisfactory in their growth over long periods as they were when raised from seeds. Good seeds involved a certain cost in production, and must be paid for accordingly. Low-priced seeds, speaking generally, were never profitable, and the purchase of them was a penny wise and pound foolish policy. The president expressed the obligations of the society to Mr. Crook for his practical address, and, referring to what he had advanced, said that he (Mr. Dean) quite agreed that good seeds must be proportionately paid for. Cheap seeds were dear at a gift. Mr. Crook answered several questions which were put to him. On the motion of Mr. Bishop, seconded by Mr. Phillpott, he was accorded a unanimous vote of thanks for his address.

WIMBLEDON GARDENERS' IMPROVEMENT SOCIETY.

THE monthly meeting of the above society was held on Monday, the 4th inst., when a paper was read by Mr. D. Sheenan on "The Fuchsia." This was a flower which, although easily grown, still required care and skill to produce good examples for exhibition and for decorative purposes. A good plant could be grown from cuttings inserted in early spring, as at that time in a moist heat young growing shoots rooted so very easily, and could be grown on quickly into useful plants, but to obtain large plants for exhibition it was best to have cuttings struck in September, and keep them steadily moving during the winter in a temperature which did not fall below 50°, and as soon as days lengthened out in January to move them into larger pots and increase the temperature, so as to get plenty of growth early in the year, as later on there was, especially with free-flowering varieties, a tendency to flower, which thus checked the growth. A compost of turfy loam, leaf soil, well decomposed horse or cow manure, three parts of loam to one each of the latter, with sufficient sand to keep the whole porous, would be found to be a suitable one for them, using it in a smaller state for first pottings and rougher for the latter; 8-inch and 10-inch pots would be large enough for the plants the first season; an addition of bone-meal to the soil for the last potting would be of a great assistance to them. They must be kept free from insect pests by the use of fumigators or one of the many approved insecticides.

A discussion followed, Mr. Laker, of Belvedere Gardens, who brought a handful of nice flowering shoots of *Fuchsia Lord Beaconsfield*, speaking of their usefulness as climbers, and also the low temperature in which the flowers produced had been grown. They were very much admired. The value of the plants as standards to stand out above dwarf plants in flower beds was dwelt upon by Mr. Nash. Other members also spoke of the uses to which they could be put, and agreed that the paper was a very useful one.

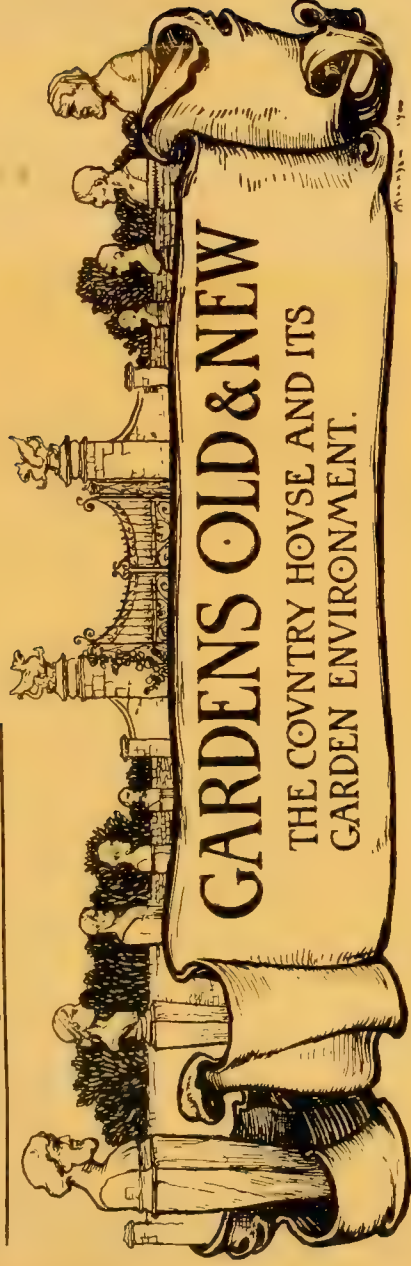
The second paper was "Some Experiences of an Amateur," by Mr. Brown, and was written in a very humorous manner, dealing with the different efforts made by the writer during several years to grow garden produce, both flower and vegetable, in a suburban garden or rather in several gardens, and, judging from the excellent results as shown by the number of prizes obtained at several shows, including a first at the Aquarium for *Chrysanthemums*, his observations had taught him that good judging did not award prizes to the largest of things, especially in vegetables, but quality, neatness in setting up dishes, &c., were points which were necessary to success after growing one's produce.

A hearty vote of thanks was given to both readers of the papers, and the enthusiasm of Mr. Brown in carrying out his hobbies was commented on as an encouragement to both amateur and professional, that in striving to attain success in horticulture one must persevere earnestly, and a very successful evening was brought to a close with thanks to the chairman for presiding.

LIVERPOOL HORTICULTURAL ASSOCIATION.

A MEETING of this society was held on the 9th inst., Mr. T. Foster in the chair. In introducing Mr. B. Ashton, of Latham Hall Gardens, reference was made to the leading position gained by the lecturer at many of the more important vegetable exhibitions. The cultural notes embraced those kinds which were in season from July to autumn. Advice was given for liberal preparation, and where the ground needed trenching the work to be done in October or November. Plenty of space was recommended for all crops, which were to be kept clean, so that the plants might grow strongly. All roots should be washed scrupulously clean, using for Potatoes a little soft soap and a sponge, giving them a final dip in clean water. It was advised that Cucumbers should not be included in classes for eight kinds or under, and Tomatoes for six kinds and under, as they were not what could be termed vegetables in the same manner as those grown expressly as vegetables. Details of staging were fully considered; plenty of time was requisite for staging, so that the specimens might be in the best possible condition to meet the keen eyes of the judges. A discussion followed, in which Messrs. R. E. Waterman, J. Stoney, Rainford, J. Mercer, R. Pinnington, and the chairman took part, and although the allotted time was passed, the proceedings had to be closed before all that wished could take part. A hearty vote of thanks was accorded to Mr. Ashton for what the chairman described as an admirably practical paper. The thanks of the meeting to the chairman concluded the business.

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THE NOBLE HILLSIDE GARDEN AT CLEVEDON COURT—THE BOWLING GREEN.



THE great stimulus that has been given during recent years to public interest in the occupations and pursuits of country life, and more especially in the garden and garden design, has induced the proprietors of *Country Life Illustrated* to prepare for the Press a very important and magnificently illustrated work, entitled "GARDENS OLD AND NEW: THE COUNTRY HOUSE AND ITS GARDEN ENVIRONMENT," which will be published towards the end of November, 1902. They are encouraged to believe that *Country Life* has played a large part in this wholesome revival, and that there is a real need for the forthcoming book devoted to the garden in its relation to the house.

Hitherto no such work has existed. Amid the countless volumes that have been issued, there is not one that deals as this does with the greater features of garden design. There have been few efforts to show the garden in its larger artistic aspect, to illustrate its right place as an environment, or the place it holds in the work of the architect and estate designer. The new book will depict the many-sided character of old and

modern gardenage, and will reveal the glorious possibilities that lie before possessors of gardens, and those who would create gardens to their mind. The system of the book is one of example more than of precept. There is no attempt to enforce a special character, nor to advocate the claims of any particular style. Rather, the object has been to illustrate the merits of many styles, and to show how all are appropriate to particular houses and how they harmonise in special situations, and to illustrate in a manner unexampled, and with a richness never before attempted, the greatest and most interesting gardens in England—gardens which have no equals in the world and to bring before the reader the most splendid and instructive examples of garden beauty and character.

These are the object lessons of the book. Here will be seen the influence of tradition, the evidences of personal taste, the clashing of new ideas, and the continuous developments which are the history of gardening. There are perhaps few who realise the inexhaustible stores of garden beauty which the country enshrines, and this book, with its hundreds of superb



THE TERRACE GARDEN, TISSINGTON.



THE YEWS, BRICKWALL.



A FINE STUDY IN GARDEN ARCHITECTURE, CLIFTON HALL.

illustrations, will be a revelation to very many. It is full of suggestion in regard to the detailed character of the garden, and to the appropriate adornments of architecture, sculpture, and metal work, which contribute so much to its beauty.

This is an aspect of gardening too much neglected. And yet the marvellous beauty of the work of the craftsman in metals and stone, must add infinitely to the interest of any garden of distinction. The Introduction, by a high authority, deals with the historical development and essential features of the garden, so that the reader will be able to appreciate the merit, character and appropriateness of the various pleasures he finds depicted. It is shown that gardening is an historical art, and that in its various manifestations it is illustrative of the changing ideals of the times. We thus discover gardening

their older state with added charms of garden and architecture. Every picture shown in the volume is from a photograph specially taken. The photographs are, in the best sense of the word, pictures, the work of a true artist in photography. No expense has been spared, and the illustrations will challenge comparison with any ever issued from the press, and the paper, printing, and binding will all alike be superb. In short, "GARDENS OLD AND NEW: THE COUNTRY HOUSE AND ITS GARDEN ENVIRONMENT" will be one of the most charming pictorial volumes issued within recent years.

It is not only to the British public that this recommendation of a beautiful book is addressed, but to all the kindred peoples who speak the English language. Wonderful as has been the recent development of the love of the garden in our own country,



THE MOAT GARDEN AT BLICKLING.

in its human significance, and very great attention is devoted to its artistic appropriateness.

In addition to illustrating the garden, the volume therefore necessarily illustrates the house, and certainly there has never been any work dealing so exhaustively and in so charming a manner, with our finest examples of domestic architecture. This is one of the most interesting features of the book, investing it with high and permanent value, as an exemplar of the beauty of the English country home. Here are seen the dwelling places of Englishmen belonging to every period of our history, presented with a completeness of character and artistic effect never before attained. Some of them are houses famous in our annals, others the quiet and beautiful dwellings where the current of domestic life has run undisturbed by the sounding events of history, and a few—and these not the least interesting—are houses rescued from decay and won back to

the same wholesome tendency is hardly less manifest in the United States and in the British Colonies. In all of them garden literature is welcome and more than welcome. In the United States, in Canada, in South Africa, and in Australia the English-speaking races, keeping always an open eye for the special capacities of the country in which destiny has cast their lot, make the most praiseworthy and successful efforts to reproduce all that is good and suitable of the architecture and the horticulture of the country from which they sprang. To cherish that feeling, to further that movement, has been the constant ambition of the proprietors of *Country Life*, and they have never taken a more substantial step in that direction than in the publication of this volume. It is a joy to read and to look at from beginning to end. It has been a labour of love. They submit it to the English-speaking public with absolute confidence.

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THE GARDEN.

No. 1527.—VOL. LIX.]

[FEBRUARY 23, 1901.

SPRING GARDENING.

NOW that spring flowers are almost with us it is pleasant to look back and think of some of the best of the spring garden effects that have been seen in past years. Among them one stands out in honourable distinction above all others, the spring garden at Belvoir, in the days of its creator, Mr. Ingram. Here was a gardener of the highest class who loved simple flowers and possessed the divine gift, cultivated to a condition of high development by his own unwearied industry, of recognising what was most beautiful among hardy flowers, and of using the knowledge he had gained to the best advantage. Here was a born artist who had shirked no one of those steps in the ladder of learning that had enabled him to rise above his fellows and develop so worthily the aptitude that was his by nature. The gift alone could not have done it. Many a man who has such a natural advantage neglects it, or, puffed up with the knowledge of its possession, is unwilling to face the hard work, or maybe degree of drudgery that may be needful to bring it to its fruitful strength.

It was not so with Mr. Ingram. He worked hard and thought well and read copiously, and, a gardener all round of the highest calibre, made himself a name that will endure in the annals of horticulture by his consummate use of spring flowers in the gardens of Belvoir Castle.

The site was in his favour. The great house stands on a kind of acropolis of sharply rising hill in a nearly flat country. The hill itself is wooded, and the pleasure ground is on steep slopes, with groves and groups and single trees of fine growth, while at its base is park and pasture land and wood-fringed lake.

The sheltered and partly shaded slopes were the home of the spring flowers. Here were banks, some steep, some easy, according to the degree of the declivity and well-formed clumps of shrubs and flowers, with pleasant bounding lines and broad grassy spaces between. And in April here were spring flowers used with the masterly hand that had learnt how to marshal its tens of thousands with unerring judgment. Great though the amount of material was, it was so well ordered and disposed that it never conveyed a suspicion of arrogant display by force of numbers, but just told of a bold free use of the best early flowers.

There are those who will tell you with pride

of so many hundred thousand of bulbs bought; here there was no such thought, but only the desire of so adorning certain informal spaces in one region of a large garden that it should give the best impression of the beauty of spring flowers. Flowers lavishly used if you will, but with the right free kind of spending of the Primrose of the Hazel copse or the Blue Bell of the wooded chase.

To see this good garden was a new and wide lesson in the use of spring flowers. They were planted for the most part in masses of a kind together, but in masses of well-shaped diversity. Primrose, Polyanthus, Daffodil, *Doronicum*, Squills, Anemones, Tulips, Hyacinths, Wall-flowers, Arabis, Iberis, Aubrietia, and *Cerastium* were there, and many others besides; all plants well known, but seen in the most fitting way as to grouping and placing and environment.

Mr. Ingram was one of the first to use largely the broad-leaved Saxifrages (*Megasea*), soon finding out that their large solid foliage was of special value in the considerable spaces that he had to deal with; indeed, it was this cultivated power of perceiving what was the right plant for the right use, added to a critical discernment of the plants that would best suit each other's company, that made him the garden artist that he was.

All who knew him or who saw that good garden will revere his memory for the good work he did among the spring flowers, and feel pleased that this work is continued by his successor, Mr. Divers, who kindly contributes to our present issue a most interesting article about the use of spring flowers in the English garden.

THE LILY CONFERENCE OF THE ROYAL HORTICULTURAL SOCIETY.

MANY of our readers will learn with pleasure that the Royal Horticultural Society intends to hold a conference on Lilies on July 16.

Lilies, although they are amongst the most important garden plants, are not half as much grown as they should be. Amateurs, other than the careful and studious few, do not know as much about them as would certainly be good for their gardens, and this conference, with its attendant discussions and reports and the lively correspondence in the horticultural press to which it is sure to give rise, should prove a wholesome stimulus to Lily growing.

We hope that both amateur and trade growers will bring abundant material to the Chiswick Garden on the date named to illus-

trate the discussions and to illuminate the flower-loving public. There is still time to prepare a good many Lilies for growing in pots for exhibition. The conference itself will be of extreme interest, and many practical papers will be read by the leading authorities upon the subject.

EDITORS' TABLE.

COTONEASTER MONTANA.

"I send you berry-laden branches of this handsome small tree, which I received some years ago under the above name. In appearance it scarcely differs at all from *C. frigida*, but the most curious and valuable feature is that while the birds had stripped all the trees of *C. frigida* bare of berries quite two months ago, they leave this severely alone. My big bush is about 15ft. high, by rather more across the head, and is so situated as to be seen from a long way off, and is quite a brilliant object in the landscape. I know nothing of its origin, but the fact that the seedlings do not all come true rather points to some hybrid origin."—T. SMITH, *Newry*.

[Several twigs were sent of this splendid *Cotoneaster*, the red berries in large, heavy, and most ornamental clusters—an extremely handsome kind.—Eds.]

SALIX DAPHNITES FÆM.

"I send branches of this most distinct semi-weeping Willow. Just now it has quite a cheerful appearance, and the effect in the sunlight is precisely that of a budding Almond, and as you will see the pink tinge showing through the catkins rather helps the delusion. I have found that it is an excellent town tree, and should be largely planted."—T. SMITH, *Newry*.

[A very beautiful Willow, with graceful rich brown stems and charming silvery catkins.—Eds.]

NEW AND RARE PLANTS.

ODONTOGLOSSUM LOOCHRISTIENSE ROCHFORDIANUM.

This is a lovely flower. The sepals and petals are large, having a ground colour of clear yellow, the petals shading into white towards the centre. They are pleasingly and evenly blotched with chocolate red. The lip is white, with a large central blotch of the above colour. This charming variety was shown by Mr. Thomas Rochford, Turnford Hall Nurseries, Broxbourne, Herts. First-class certificate.

DENDROBIUM WIGANIANUM.

This beautiful new hybrid Dendrobe was obtained from D. Hildebrandti × *D. nobile*. It has much the form of *D. nobile*; the petals and sepals are twisted and almost white, deepening into pink at the ends; the lip has a broad, flat margin of a pale sulphur colour, while the interior is yellow, slightly marked with chocolate-red. Exhibited by Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young). Award of merit.

ODONTOGLOSSUM LOOCHRISTIANSE CONDONENSE.

THIS is a noteworthy introduction. The petals and sepals are acuminate, and have wrinkled edges; they are pale yellow, the colour becoming lighter towards the centre. Small blotches of light chocolate red mark the sepals and petals, and also the lip. The margins of this are paler than the centre, just the reverse of the colouring of sepals and petals. Exhibited by Mr. G. Singer, Condon Court, Coventry (gardener, Mr. J. Collier). Award of merit.

CYPRIPEDIUM T. W. BOND, LONDON COURT VAR.

A VERY handsome flower, with long, slightly drooping petals; these are rosy lilac at their apices, and heavily spotted with crimson-brown; dorsal sepal beautifully lined with crimson-green; an improved variety of C. T. W. Bond. Exhibited by Mr. G. Singer, of Condon Court, Coventry (gardener, Mr. J. Collier). Award of merit.

PTERIS CRETICA ALBO-LINEATA ALEXANDRÆ.

THIS, as its varietal names indicate, is one of the white-striped forms of *P. cretica*, to which is now added a certain crested character in the upper and larger fronds. Doubtless some age is needed to further develop its main features. The plant, exhibited by Mr. H. B. May, Edmonton, obtained an award of merit.

* * All the above were exhibited before the Royal Horticultural Society, at the Drill Hall, Westminster, on Tuesday, February 12.

THE KITCHEN GARDEN. VEGETABLES OF RECENT INTRODUCTION.

IT is difficult to raise new types or improve upon older ones at the present day, because of late years more interest has been taken in vegetable culture, with also increased improvement. I am aware many may question the latter assertion as regards Potatoes, as only recently I met a gentleman who went as far as to state we had degenerated greatly, as it was difficult to get a Potato now equal in quality to the old Regent or Victoria. Although this is of excellent quality, the disease was so disastrous during the last two years I grew the Victoria (in 1870) that the crop absolutely did not pay for the seed and labour in planting. Vegetables deteriorate quickly if special care be not taken with the seed-stocks. This applies more to the Brassicas and Peas than to root crops. As I have briefly hinted above, we have nothing of recent introduction distinctly new; at least, not yet in commerce, but only recently I noticed at a meeting of the Royal Horticultural Society there was an exhibit of the *Dioscorea*, or Yam, so well known in China, and by some this was thought to be a new vegetable, but I well remember these roots being recommended for our gardens as likely to supersede the Potato when the latter were badly diseased.

PEAS.—Few, if any, vegetables have made more progress of late years. I take the Royal Horticultural Society's awards as my guide, as I have seen the kinds on trial. There is, however, no doubt that the same trials have been going on in various parts of the country by our large growers, and in due course the good kinds will come to the front. Much improvement has taken place in this vegetable, as by blending the Marrow with other early kinds we now have a hardier race of early sorts. This is a great gain in heavy soils, as years ago to sow a Marrow type too early was to court failure. There is also great gain in habit and dwarfness compared with the old Daniel O'Rourke. With English Wonder, Chelsea Gem, or William Hurst

there is an immense gain, and the same thing follows in the later kinds. Of new early Peas, the new Acme will, I think, prove a valuable standard variety. This I have grown, so am enabled to write more fully on its merits. It was raised by crossing Veitch's Early with Stratagem, and is certainly worth a leading place, as it bears freely, being remarkably early and of first-rate quality. The Pea of the season, however, is Edwin Beckett, a mid-season Marrow of splendid quality. It received the society's highest award after a trial in anything but a favourable season. This was raised by that splendid cultivator of vegetables after whom it was named; it is 4 feet high, sturdy, and bears an abundance of pods and wrinkled seed of a deep green colour. This new Pea was figured in *THE GARDEN*, September 1, 1900, page 174, so I need not describe it at greater length. Another very fine new variety is Sutton's Ideal, an early Pea I saw on trial last season, and producing larger pods than Acme or English Wonder. It is of splendid table quality, only a little over 2 feet in height, and is a fine Pea for first crop, being of a robust growth not easily affected by climatic changes. Of other kinds that have been longer before the public, my best selection would be Gradus and Daisy, both standard early kinds, which will find more favour as their good qualities become known.

POTATOES must have the next place to Peas. Although there is much difference of opinion as to their good qualities, one must not forget that soils differ greatly. Those given awards in August were only equal to Early Puritan, an old variety, and not always good in wet, heavy soils, and the Beauty of Hebron also received a similar award. Denbigh Castle, an early kidney, white-fleshed kind, received the only first-class certificate in early July. This may be termed a white-fleshed Sharpe's Victor, and is a splendid tuber, free-cropping, and with short haulm. Ninety-fold also received an award at the date referred to above. This is a splendid addition to the early varieties, a remarkably heavy cropper free from disease, and with a robust haulm; a fine variety in holding soils. A new tuber, Sir John Llewellyn, a kidney also given an award, was a very heavy cropper; a handsome mid-season Potato of great merit.

BEANS.—A distinct new race is the Climbing French Bean. Though the earliest introduction of this type was sent out ten years ago, several good additions have been made since then, such as the Excelsior and Earliest of All, and in the dwarf section such kinds as Veitch's Progress and Early Favourite appear to meet with much favour. Amongst the

BRASSICAS are some splendid novelties. The new sprouting winter Kale is well worth noting. Of Cabbage we have the new St. Martin. The newer Arctic Kales are remarkably hardy, and those who need late Savoy should give the New Year variety a trial. It remained sound last year until the end of April in Northumberland.

CUCUMBERS.—Lord Roberts, raised by Mr. Mortimer, is a very valuable addition, and in the SALADS such new and good things as the Winter-leaved Lettuce are most valuable to gardeners who need winter salads.

TOMATOES are numerous already, but there can be no question as to the value of the new Chiswick Peach, a beautiful fruit, which all who like Tomatoes as a salad in a raw state should grow. The new

TENDER AND TRUE PARSNIP is a root of splendid quality, large, well flavoured, and doubtless the finest Parsnip in existence. Messrs. Dobbie, of Rothesay, last autumn showed some interesting new crosses of

TURNIPS, which will doubtless find favour, as there are none too many good hardy garden varieties. The new forcing Turnip Carter's Early, given an award by the Royal Horticultural Society, is a splendid acquisition; it is a long root, most valuable for sowing under glass, and is also specially good in dry soils, as it is not so readily affected by heat and drought.

VEITCH'S NEW IMPROVED ARTICHOKE, a long root, also introduced this season, promises well, as

it is of good table quality and a smoother root than the old type. G. WYTHES.

THE FRUIT GARDEN. THE PRUNING OF FRUIT TREES

ALL things considered there is no better month than February for the pruning of fruit trees and bushes, and the sooner it can be done, providing all danger from hard frosts is gone, the better. If the pruning be done earlier in the winter there is always the danger that frosts may come, and then an inch or more of wood immediately behind the cut will be killed, and this will have to be removed later. Unless, therefore, one has so many trees that it is impossible to get the pruning done all at once, it is best to defer the operation until February. If, however, one must prune earlier operate only on the best ripened wood.

For Apples, Pears, and Plums, as bushes or standards, prune away all wood which crosses or tends to choke up the centre of the tree, and remove any lateral growths not required to fill up blank spaces, cutting back to half an inch or so of the base if fruiting spurs are required, but these must not be left too thickly. If they have reached this state remove half, cutting back to a live bud. Shorten the new growth of the leading branches from a quarter to two-thirds, according to its strength, the less and weaker the growth the harder the pruning. Remove all dead wood and worn-out fruiting spurs.

Wall-trained trees of matured growth will require little more than the removal of all new growth not required for nailing in to take the place of worn-out wood or to fill up gaps. Shorten by about 3 inches any new wood retained. Peaches bear their fruit on the new wood, and as much of this as convenient must be kept, just cutting off about 2 inches and nailing in the shoots not less than 6 inches apart at the extremities. Cherries merely require the superfluous wood taken away so as to keep a good shape, but do not shorten at all. Cut away, if this has not previously been done, all old Raspberry canes, and shorten those left by from 2 feet to 4 feet, according to the growths.

Black Currants must be pruned so as to retain as much vigorous new wood as possible, as it is here that the finest fruit is produced. Remove all old wood and do not be alarmed if this reduces the bush to but four or five young branches, as the tree will be the better for it. Do not shorten the strongest of the new wood retained; cut to an outward eye about 4 inches down, when pruning is necessary. Red and White Currants bear their fruit on spurs on the old wood, so all new lateral growths must be pruned to within half an inch or so of the stem, the strongest end shoots being retained and shortened by almost two-thirds. Let the centre be open and do not get too many branches on a bush, the more there are the thinner and smaller the fruit. Prune Gooseberries to a cup-shaped bush, the branches radiating from the centre. Cut away all lateral growths to within two eyes of the stem, and shorten the leading branches by 3 inches, cutting to an inside eye. Leave some new wood to fill up gaps, and these will bear the coming season.

Sutton.

PERCY LONGHURST.

HARDY FRUITS IN SEASON.

THE reflection is not a pleasant one, nor the admission flattering, as regards the enterprise and initiative of English horticulturists, when it can be said that most of our best varieties of Pears have originated and have been introduced from the continent. That this is a fact is undeniable, and it is also beyond doubt that our friends across the water are still alive to the important fact that great possibilities in the direction of improving the

quality and flavour of the Pear, especially late varieties, in the future, is receiving their serious and practical consideration. This is evident from the fact that one firm alone is now offering the following new varieties of late Pears. To those of your readers who are interested in the subject, and would care to try these new varieties—as I propose to do—the names are as follows, and they may be procured through any of our English nurserymen:—Admiral Gervais, ripe December to March; Belle de Lesquin, November to January; Bergamotte Nanot, November to February; De la Forestrie, January to February; Directeur Tisserand, December to January; Directeur Varenne, February to March; Dorset, February to March; Fredrick Baudry, December to February; Griveau, December to February; Lincoln Coreless, December to March; Mme. Levavasseur, March to May; Ministre Vigor, January to February; Notaire Lepin, March to May; P. Barry, April to May; President Casimir Perier, December to January; Senateur Belle, March to May; Souvenir de Jules Guindor, March to May.

I do not suppose for a moment that half the above are any improvement on many of the good varieties we already possess, but on the chance of securing even one new superb variety a trial of the whole is justifiable and to be recommended. As maiden trees can be bought for about one shilling each, even if the whole prove a failure the sacrifice is not great.

As regards the successful growth of late Pears in the British Isles, I do not lose sight of the fact that we British gardeners are handicapped, and in some parts heavily handicapped, with respect to favourable climatic conditions as compared to France and the Channel Islands, still I firmly believe that we have it in our power to considerably improve upon old methods of culture by the light of observation and experience in the past. This I will endeavour to demonstrate in a future note. I have digressed considerably from the heading of this paper, and for the sake of consistency will mention one of the best seasonable Pears we have, namely, Easter Beurré. It is too well known to need any description. In ordering trees from the nursery purchasers should insist upon having trees double grafted on the Quince stock. The best results are obtained here from trees trained as espaliers.

Windsor.

OWEN THOMAS.

NOTES OF THE WEEK.

Apple Lord Burghley.—This Apple does not succeed equally well on all soils, and that no doubt accounts for its not being so generally cultivated as it deserves to be. Last year seems to have been favourable to this variety, as I have noticed good specimens of it at various places during the past autumn and winter. It is an excellent keeping dessert fruit, with a crisp, juicy flesh, and is of excellent flavour. When grown in an exposed position the fruits colour splendidly, and they also attain to a good size. Where the soil suits, the tree is very productive and grows vigorously. On a cold, damp soil it becomes a prey to canker, and bears but sparsely.—A. WARD, *Trent Park Gardens, Barnet.*

Spiræa prunifolia fl.-pl.—This is possibly the prettiest of the several species of *Spiræa* suitable for forcing, and as it forces well and is easily grown it will most likely be extensively used in the near future. Plants for forcing should be specially grown for the purpose, the object being to obtain fairly loose plants with numerous long, well ripened branches. This is best done by layering fairly large branches or by severing large suckers from an old plant. When

the layers are well rooted, or the suckers taken off, they should be planted in a sunny position in rich soil. All weak, useless wood should be removed during summer, strong flowering wood only being retained. By potting plants up in September they may be brought on by gentle forcing to flower from the middle of January onwards. As the flowers are pure white and produced from every bud on branches 2 feet to 3 feet long, some idea may be gathered of its usefulness and beauty. The light and graceful habit of the whole plant adapts it admirably for grouping with a great variety of other plants. If, after the flowers are over, the plants are placed in a cold house, manured, and stood out of doors in summer, they can be used again the following winter.—W. DALLMORE, *Kew.*

Nerine undulata.—I was very pleased to see this graceful species of *Nerine* so well illustrated recently in *THE GARDEN*. Those—and they are many—who regard size as the only object to be aimed at will feel little interest in this modest kind, yet it cannot be dispensed with where a collection of *Nerine* is grown. In *N. undulata* the flower segments are, as may be seen in the illustration, reduced to extremely narrow proportions, so much so that a cluster of bloom has a particularly light and elegant appearance, which is heightened by the wavy character of the petals. The colour is white, flushed more or less with pink, according to the conditions under which it has been grown, as well as the length of time that the flowers have been expanded. It is of easy culture, and can with ordinary greenhouse treatment be depended upon to flower well every year. In addition to all this, there is still one more desirable feature, viz., that with the exception of the hybrid variety *Manselli*, it is the latest to bloom of all the *Nerines*. Both of these may frequently be had in flower at the end of the old year or in the early days of the new. The specific name at the head of this note is that under which it occurs in the *Kew* list, but it is quite as often met with bearing the name of *crispa*. Like all the other members of the genus it is a native of South Africa.—H. P.

Manettia bicolor.—It is at least questionable if any other climber can compare with this in the length of its flowering time; indeed, under favourable conditions, it blooms more or less all the year round. Introduced from the Organ Mountains of Brazil over half a century ago, it is not nearly so much grown as one might expect, though within the last five or six years, it has certainly become more popular. Being of quick freely branched, though slender habit of growth, combined with its continuous flowering qualities, there are many purposes for which it is available, as it can be employed for furnishing a pillar or end of a glass structure, while as a roof or rafter plant it does not obstruct the light to anything like the same extent as strong growing large-leaved subjects. Grown in pots and given a few sticks to twine around it will flower well and form neat little specimens for the embellishment of the intermediate house, which structure is necessary to induce it to bloom during the winter, though in the summer it will do well in the greenhouse, and, indeed, out of doors. Under these last-named conditions it has been for two or three years very attractive in Hyde Park when associated with other plants. Where button-hole flowers are needed all the year round it is exceedingly useful, as the small tubular-shaped blossoms, in colour scarlet, tipped with yellow, stand well when used for the purpose, and present as refined an appearance as their near allies the *Bouvardias*. Cuttings inserted in the spring strike root readily, and the plants grow away freely in ordinary potting compost. In the United States, where all climbers are Vines, this is the *Manettia* Vine, and as such it is a very popular plant.—T.

Late Pears.—It would be well to make a note of the two Pears mentioned on page 64, with the view to include them in future planting, as anything of good quality ripening in January is exceptionally valuable. I am afraid there is always an inclination to plant too many late October and November Pears, simply because there are so many first-class varieties at their best about that time,

with the result that we have a glut of fruit during those months and practically empty shelves from the middle of December onward, just when high-class fruit is most wanted. Several late Pears are not a success on our soil: Winter Nelis and Olivier des Serres crack badly, whilst Bergamotte d'Esperen and Beurré Rance never ripen satisfactorily. I hope to try Beurré de Jonghe and Le Lectier in their place. At present Glou Morceau and Josephine de Malines are decidedly our best late Pears, and the first-named is exceptionally good. I note that Messrs. Bunyard give its season in Kent as November and December when grown on a north-west wall; it does not start ripening until just before Christmas, and very good samples are still to hand (February 4).—E. BURRELL.

Influence of electric light upon vegetation.—M. Koller writes from Geneva that a remarkable example of the influence of electric light upon vegetation has been apparent this winter in several parts of the town. The Plane trees on the public promenades, whose branches were illuminated by arc lamps, kept their leaves green long after the other branches were bare. On January 1 one could still see these green leaves on the trees that only frost has deprived of their beautiful covering.—*Revue Horticole.*

Zephyranthes candida.—I am afraid "W. W.'s" enthusiastic account (page 115) of this plant will lead many to disappointment. It is not "a plant for the million," for it is most capricious. I have never succeeded with it, and though I have seen it in a few places as flourishing as in "W. W.'s" description, I have seen more failures than successes. Why will not your correspondents say where they write from? Many of the notices of plants are useless without knowing the locality in which they are growing. We may easily guess "W. W.'s" locality, but it is not so with all your correspondents.—H. ELLACOMBE, *Bitton Vicarage, Bristol.*—["W. W." resides at *Kew.*—EDS.]

Lonicera Standishi.—This Honeysuckle is one of our earliest and best of the hardy flowering shrubs, and, thanks to a mild, open winter, the plants have produced an abundance of smallish, but extremely pleasing, highly-scented, white flowers. It goes without saying that all hardy sweet-scented flowers are appreciated, and the very early ones are especially welcome as the harbingers of spring and the wealth of better things following in rapid succession. By a judicious selection of hardy flowering shrubs, including those introduced during the past century, we have such an abundance of floral wealth that we can positively ring the changes the whole year through, especially in mild winters like the present. There are several scented varieties of these hardy early-flowered *Loniceras*, but I consider *Standishi* to be the best. *Ligustrifolia* is, in my opinion, synonymous with *Standishi*. The latter was introduced from China about the year 1866, and is not so well known as it deserves to be. It is such a pleasant surprise to the owners of gardens when taking their daily walking exercise to unexpectedly come across a *Lonicera Standishi* bush in full flower and perfume that the temptation to personally appropriate a few sprays there and then is irresistible to most people.—W. CRUMP.

Camellias in the open.—I have seen the very fine collection of *Camellias* growing in the gardens of Glen Eyre, Northampton, many times in the spring, and seldom found any blooming so early as to suffer from frost. Invariably the finest bloom on them has been found in April, as that seems to be their period of natural flowering. Many of the specimens there are very large and stand out quite exposed; a few others are beneath trees or on walls, but still very loosely grown, and bloom with marvellous profusion. The soil is of a black peaty nature, in which *Rhododendrons* grow with great robustness. There are many gardens in which *Camellias* would do well. No doubt they like a little shade in hot weather, but the more thoroughly the summer shoots are ripened without doubt the finer and more profuse the bloom.—D.

Disanthus cercidifolia.—A special interest belongs to this shrub as being one of the

Japanese representatives of the Witch Hazel family, which in recent years has become popular through the quaint beauty of several sorts of Hamamelis. This *Disanthus* (the only member of the genus) is as yet a very rare plant in Europe. It was first introduced by Professor Sargent from Japan by means of seeds he obtained there eight or nine years ago. Subsequently it was offered in M. Lemoine's catalogue. It would be interesting to know how it has succeeded in Europe. It does not appear to possess as much beauty in regard to flowers as its allies the Witch Hazels, its blossoms being dark purple, the petals narrow and pointed. They are produced in October (like those of the Virginian Witch Hazel), and are curiously arranged in pairs, each pair being set closely back to back at the top of a short slender stalk. As a shrub with beautiful autumn tints, however, it promises much should it prove to be hardy in Britain. In Japan the leaves before they fall turn a rich wine-red or red and orange. A small plant I saw a few years ago in November had only two or three leaves on, but these were of very rich claret colour, and not inferior in autumnal beauty to any other tree or shrub at that time. The leaves have a curious and striking resemblance to those of *Cercis chinensis* (the Asiatic representative of the Judas tree), hence the specific name. This *Disanthus*, according to Sargent, who figures and fully describes it in his "Forest Flora of Japan," is "not rare in the Kisogawa Valley in Nakasendo, Central Hondo." It occurs in thickets sometimes a quarter of an acre in extent, so there ought to be no difficulty in obtaining it in abundance if necessary. It is a shrub 8 feet to 10 feet high.—W. J. BEAN.

Pear Le Lectier.—I fully endorse Mr. Wythes' recent remarks on the merits of this late-keeping Pear. I think it was in 1897 that I first saw it. It was growing in cordon form in an exposed position in the late Mr. Newton's garden at Hillside, Newark, and, although the soil was very strong and retentive, the tree was very healthy and carried an excellent crop of fruit. Many Pears, though succeeding well enough on a warm wall, are utterly worthless when grown in the open and in cold soil. I consider *Le Lectier* a worthy addition to late sorts, and would advise amateurs to plant it; it is of large size, of very rich flavour, and will keep until March in a cool fruit room. Reference was recently made to President Barrabe, which, in my opinion, is one of the richest of January Pears, and indispensable even in the smallest collection. Judging from the fact that it ripened thoroughly in Norfolk both in a wet and fine autumn, I should say it may safely be planted in midland and northern gardens. If placed in a fruit room facing north it would, I think, keep sound until the end of January.—J. CRAWFORD.

The severe frost in the Riviera.—I have read Mr. Woodall's letter in *THE GARDEN* of January 26 with the greatest interest, and feel tempted to compare my experience in a fairly sheltered garden with his. In spite of the severe frost, I had the temerity to keep two taps open, as usual, the whole time, and it would be interesting to know how far water fortifies plants against cold. It is true the water fell in the one case into a covered grotto protected by Palms, and in the other case down a covered channel, disappearing mysteriously and only showing its beneficial effect in the luxurious growth of a *Tacsonia ignea* and a *Lotus peliorynchus* on the terrace below. The *Tacsonia*, alas! looks past reviving, but the *Lotus* still has some promising green shoots under a mass of silvery grey desolation. On a still lower terrace is a well grown *Hakea eucalyptoides*, which has flowered profusely the whole time and only shown signs of the frost in a few yellow and slightly shrivelled young leaves. Of the *Reinwardtia trigynum*, those planted in the walls resisted the cold the best, and one plant blossomed again soon after. *Iris stylosa*, *Narcissus*, single Violets, Roman Hyacinths, and the *Hakea*, with a very few Roses, were at one time our only flowers. Now that the Almond and *Acacia ovata* are in bloom the garden looks a little more cheerful, but one misses the brilliant

Bignonia capensis, now for the most part a mass of brown, wrinkled leaves, and the wealth of Ivy-leaved Geraniums, of which Charles Turner has proved harder than the common pink one, and with us has always been the stronger winter bloomer. The *Ephedra* has not suffered at all, and is apparently harder than the *Muhlenbeckia*. The fate of a fine plant of *Passiflora princeps*, though protected with straw, still hangs in the balance. Surely we may hope for a little compensation later on, when the Roses recover from the bracing they have had, and show us how good it was for their constitutions. General Schablokin and Prince Eugene are having a disgracefully long holiday, and seem in no hurry to retrieve their characters as first-rate winter Roses; on the other hand, Marie Van Houtte has behaved in the most exemplary manner. We hear a rumour that Mentone has suffered wonderfully little from this frost and that the *Heliotrope* is still in full flower. This hardly seems possible, and it would be interesting if someone with a good garden there would record their experiences.—H. L., *Alassio*.

Royal Horticultural Society.—The next fruit and flower show of this society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, 1–4 p.m. A lecture on "The Making and Unmaking of Flowers" will be given by the Rev. Professor G. Henslow, M.A., at three o'clock.

Apple Newtown Pippin.—Your correspondent Mr. E. K. Heaton, having asked for information respecting the cultivation of the above-named Apple in this country, I gladly comply with his request, and beg to furnish him with the following particulars respecting my own experiences of it. A few years ago, when living in South Herefordshire, I had two trees of the variety, the one a bush tree and the other trained diagonally on a high south wall. The bush tree would not fruit at all, but in some seasons I managed to get a fair sprinkling of fruit on the wall tree, but never at any time did it carry a full crop. I never could induce the fruits to swell to any size; they were, at the best, no larger than a medium-sized Cellini Pippin, and grass-green in colour in spite of the abundance of sunshine which they were subjected to in such a position, and the fact that the roots were highly fed. I allowed the fruit to hang as late as possible on the tree with the view of developing flavour, but even then could never obtain specimens that would compare with the imported product as seen in fruiterers' windows. Such being the case, and the fact of our having so many good home-grown Apples in season at that time, ultimately led me to abandon the further cultivation of the Newtown Pippin. If after reading this note, and the information previously afforded by the Editor, Mr. Heaton should still wish to make a trial of Newtown Pippin, I would advise him to give it a position on a wall facing south or south-west, and to plant a few cordon trees, in addition to one or two trained diagonally. He would no doubt be able to obtain the trees from any nurseryman who makes the growing of fruit trees a speciality.—A. WARD, *Trent Park Gardens, Barnet*.

Diamond Jubilee of the "Gardeners' Chronicle."—We apologise to our excellent contemporary, the *Gardeners' Chronicle*, for describing their recent celebration as the Jubilee, and not Diamond Jubilee. We must blame *Le Jardin*, but should have known better ourselves.

Royal Caledonian Horticultural Society.—The schedule of prizes of this society just to hand presents few changes. There is, however, one of importance in the class for a decorated dessert table, exhibitors having the option of employing plants and flowers conjointly or separately, as they choose. The fruit and the decorations are to be judged separately, on their merits; and, further, the use of Orchids is prohibited, so that those whose strong point is fruit will have a straight decision on that, and as well a better chance of success in the floral scheme. In the nurserymen's section the most popular class is that for a collection of herbaceous flowers cut. The small meetings which were tried as an experiment

last year are discontinued, the results having been on the whole disappointing. The spring show is fixed for April 3 and 4, and that of autumn for September 11 and 12.

Chrysanthemums for decorations.

—The annual meeting of the National Chrysanthemum Society was noticeable for more than one remarkable utterance. The chairman was Mr. Charles E. Shea, who in past years staged magnificent first prize blooms in the principal classes. Mr. Shea mentioned at the meeting that the time had arrived when the society should give increased attention to the culture of plants for decorations. Such remarks were very timely. Those persons who have been in the past responsible for exhibitions appear to have been very short-sighted, their sole aim being to make the various types of the flower as large as possible. By these means cultural excellence was undoubtedly encouraged, but, after all, this is but one aspect of the question. During recent years an attempt has been made to illustrate the practical uses to which these monstrous blossoms may be put. The vase class at the great autumn festival of the National Chrysanthemum Society is now generally regarded as the chief contest of the season. Each vase is arranged with five large flowers, which, when set up with care, are very decorative. There are, however, comparatively few occasions when such an arrangement would be required; only for the bolder and more striking effects can they be regarded with favour. In the course of the development of the Chrysanthemum—and these remarks apply more especially to those of Japanese origin—many lovely flowers have been discarded simply because they were not sufficiently large. A variety to remain popular must possess blooms of either great depth or breadth, or these two qualities combined, and as only a limited number of the sorts introduced each season reach this ideal, it is easy to understand what a large number of varieties fall out of cultivation each year. In this way many of the most delightful sorts have been lost to cultivation. The American florists are distinctly ahead of their English brethren. They have seen all along that the practical value of the Chrysanthemum for decorative uses is the only aspect worthy of consideration; hence we see that their competitions are for classes with this object in view. If only our English Chrysanthemum specialists would give this type of the flower more attention, we should soon find their displays even more interesting than they are now. Let the trade make a few representations of this kind and this would soon induce those responsible for the framing of schedules of prizes to remodel their displays. Table decorations, epergnes, hand baskets, and many other means are taken to illustrate the decorative value of the Chrysanthemum at the leading shows, and up to a point they are successful. A more comprehensive view of the matter, however, is necessary if the best results are to be achieved. Classes should be provided in which vases and bowls and other receptacles in frequent use in indoor decorations should be arranged with one or more sorts. What a splendid competition could be got together by the provision of classes, say, for the best crimson, best yellow, white, bronze, and any other colours that one could easily suggest, and these arranged in individual classes. In this way the merits of the respective sorts in the different colours would be realised in a competition of this kind, and, as a consequence, an impetus would be given to the cultivation of the freely-flowered sorts. By all means encourage the production of blooms of extra excellence, as represented by the present system of culture for exhibition, but do not let this aspect of the question unduly preponderate. There is room for a representation of all types, the popular Japanese sorts, of course, receiving more attention, but let the decorative Chrysanthemum play an important part at all future shows. The October show of the National Chrysanthemum Society promises a diversion in this direction, this being the thin edge of the wedge. Competitions for naturally-grown—i.e., without disbudding—bunches of early-flowering Chrysanthemums in different colours are provided in the new schedule of prizes. C. A. H.

Christmas Roses.—Notwithstanding the persistent advocacy of the claim of these charming winter flowers to be always remembered that has appeared in THE GARDEN pages, they are still by no means common in the majority of gardens. This is unfortunate, for besides being easily grown and flowering at a season when few other outdoor things are available, they possess the merit of flourishing in a position by no means adapted to the majority of flowers, viz., under a north wall. A practical proof of their value was to hand this season when an enquiry was made about a fortnight before Christmas if sufficient flowers would be available for a large cross 6 feet in height and of proportionate breadth. No forcing had been practised to secure white flowers, nor did the Camellias show sign of furnishing a sufficient supply, so I decided to fall back on the Christmas Roses. A temporary frame of pieces of quartering boards and old lights was quickly made and placed over some two dozen clumps that were planted on a north border in 1898, and from these we were able to pick fifteen dozen blooms, pure in shade, large, and of good substance. With a little bit of foliage between each bloom they had from a distance a pleasing starry look, and the yellow stamens gave just a slight tinge of colour.

Outdoor Camellias.—In answer to the editorial query respecting the above, we have had some outside for many years, but they can hardly be pronounced a success. They produce plenty of bud, which swells up well and expands freely, but in nine seasons out of ten very few perfect blooms are to be seen; they are nipped by frost, cold winds, or rain. This was prevented one season by a temporary awning of scrim canvas, but having plenty of bloom under glass I did not repeat the protection. Not the slightest injury to either wood or foliage is apparent, even in the most severe winters. The varieties are *Alba plena* and *Jeffersoni*.—E. BURELL, *Claremont*.

The Tiger Lily.—This handsome and accommodating Lily, referred to by "H. P." on page 46, is invaluable in the garden on account of the lateness of its blossoming period, it being the last of all the Lilies to bloom, and is often in full beauty in the month of September. Occasionally a bulb of some earlier flowering species will throw up a belated flower-spike that attains perfection even after the Tiger Lilies have shed their last petals. Thus I have had a bulb of *L. chalcedonicum*, one of a large clump, produce its solitary head of rich vermilion bloom in mid-October, but such an occurrence is merely the exception that proves the rule. In my experience *L. tigrinum* Fortunei excels all other forms for decorative effect, although the individual flowers are a trifle paler in tint, and perhaps not of quite such large dimensions as those of the variety known as *L. t. splendens*. I have grown *L. t. Fortunei* with stems over 7 feet in height, bearing quantities of softly tinted, orange-pink flowers, other varieties never having attained such commanding stature or borne blooms in such numbers. Another point in favour of *L. tigrinum* is the ease with which it may be propagated from the bulbils borne at the axils of the leaves. If these are collected and planted, either in prepared soil in the open ground or in seed-pans, a garden may soon be stocked with Tiger Lilies.—S. W. F.

Gardening in Finland.—Mr. Hammarberg writes from Finland: "After leaving Kew I spent two and a half years in various places on the Continent before coming to be municipal gardener here in Abo, a town of 36,000 inhabitants, containing park and gardens of considerable size. In the north we have the greatest difficulty in growing many things which thrive in England. In summer we can get some of the effects obtainable in England, but this locality is a favoured one. Last year I adopted the English style of bedding, and the people were exceedingly pleased. Fruit trees are limited both in number and kind, those that thrive best being of Russian or Scandinavian origin, but we can also grow some English bush fruits."—*Kew Guild Journal*.

The timber resources of New South Wales.—Few countries have such a wealth of timber as New South Wales possesses. Its woods are as varied as they are valuable,

ranging from the Ironbarks, unsurpassed for work requiring hardness and durability, to the kinds suitable for the most delicate specimens of the cabinet-maker's art. It must be confessed, however, that some varieties of timber trees, at one time very plentiful, and which, had they received attention at the hands of the State, would be plentiful still, are now hard to find in any district to which there is easy access. But this is the common experience of new countries, where the pioneers, whether settlers or timber-getters, cut down indiscriminately, giving no thought to anything but their immediate requirements.

New South Wales.—We have received a series of interesting booklets from the Agent-General for New South Wales, 9, Victoria Street, W., which deal with the climate, agricultural, timber, and mining resources of the colony.

Climate of New South Wales.—From the standpoint of health, it is fortunate for this country that dryness is one of its characteristics; otherwise, instead of being the abode of health, the interior of the colony would, with abundant rains, have become an impenetrable jungle, the lurking-place of those malarial fevers which devastate so many fair regions of the Old World and America. New South Wales may, therefore, be compared favourably with any part of the world, and, taking into consideration the comparatively low latitudes in which it is situated, it offers a most remarkable variety of temperate climates. From Kiandra, on the highest part of the Great Dividing Range, to Bourke, on the great interior plain, the climate may be compared with that of the region of Europe extending from Edinburgh to Messina, but more generally resembling that of southern France and Italy. It may, therefore, be regarded as peculiarly fitted for the habitation of people of European race, embracing, as it does, within its limits, the climatic conditions under which the most advanced races of the world have prospered.

Beauty of Kent Apple.—Whilst many persons seem to be fascinated by the rich colouring and handsome appearance of many imported Apples, they are apt to overlook some of our own long-tried and first-class varieties, simply because they are not grown in quantity or seen in such bulk as these American-grown Apples. One such is the handsome Beauty of Kent, which is so well named. At the last Drill Hall meeting, held in January, Mr. Woodward brought up from Barham Court, Maidstone, some forty to fifty really noble fruits, gathered from a large old tree. Had they been presented as a new Apple they would no doubt have received a first-class certificate. Many new Apples quite inferior have not nearly the same claim to such honour as this fine variety has. The fruits are particularly nice for dessert, though large, and cook capitally. It is a good cropper and one of our best late Apples.—A. D.

Kerria japonica.—How seldom one comes across the single-flowered *Kerria*, presumably the type of this Japanese flowering shrub. The double variety locally known as Jews' Mallow is an old favourite, especially in cottage gardens in Devonshire, but the single variety I have never seen outside a nursery and Kew. To my mind it is greatly to be preferred, as it is harder than the double variety, and does not need the protection of a wall; in fact, is better without it. I find, too, it needs little pruning beyond cutting out the growth which occasionally becomes too twiggy.—H. E. M.

Acacia leprosa at Kew.—A number of the most beautiful flowering species of *Acacia* are only seen at their best when planted in a border where they can have a good root run. Under such a condition, long, many-branched shoots are made, on which countless numbers of flowers are borne. The subject of this note comes under this section. As a pot plant it flowers fairly well, but no idea can be gathered from that of the fine specimen it makes when planted out. Although by continued pruning it can be formed into a fairly good bush, it is seen at its best trained to a tall pillar, the main branches only being secured, the secondary ones being allowed to hang in as natural a manner as possible. The flowering period is during February

and March, the flowers being borne in small spherical heads, bright yellow in colour. The leaves are very pretty, being linear, 4 inches or 5 inches long, and pale green. After the flowers are over the branches should be spurred back to within a few eyes of the main stems, and the plant kept well syringed until new growths are formed. These, if given plenty of light and air, will during summer grow to a length of 3 feet, and will have numerous side growths, all of which will produce flowers. It is an Australian plant, and thrives in equal parts of sandy peat and loam. A plant 20 feet high flowers well every spring in the temperate house at Kew.—D.

Chimonanthus fragrans.—This deliciously sweet-scented old shrub has been in full flower for the past month. It covers a large wall space on the sunny side of my cottage, and when the windows are opened the rooms are filled with its fragrance. A few sprays placed in water will fill a large room with perfume. This Japanese Allspice is perfectly hardy, but the protection of a sunny wall ripens the wood better and preserves the yellowish flowers, which, if exposed to severe weather, would destroy the rich perfume. The plant is deciduous and has a peculiarly quaint appearance, having an abundance of flowers and no signs of a leaf. Curiously, also, seed-pods with ripe fruits of last year are still hanging on the bush. A judicious thinning of spray and old flowering growths should be given as soon as flowers are over, and long, new growths trained in for extension, and the breast-wood growths spurred in to two buds, as the flowers for next year come on the new growths that start from the spurs. A judicious thinning of these new growths in the form of summer pruning is beneficial, so as to concentrate all the energies of the tree upon forming long shoots, which, if exposed to the air, will become furnished with long trails of flowers. The Chinese variety, *C. grandiflorus*, has larger and paler flowers, but it is not so free or so sweetly scented as *C. fragrans*.—W. CRUMP, *Madresfield Court*.

BOOKS.

Alpine Plants.*—An experience ranging over many years in the management of the large collection of alpine plants in the nurseries of Messrs. Backhouse, of York, enables Mr. Clarke to speak with authority on the subject of their cultivation. To those who already grow the charming plants of the Alps, but find a difficulty in the case of some individuals, this handy little book is likely to be of much use. It does not attempt to deal with the whole subject, but only with some of the less common and rather difficult alpine, special attention being given to the Gentians, Primulas, and Lithospermums. Some lists of plants at the end will be found very useful. The book is unusually free from errors in the spelling of botanical names, though we should have preferred to see *Æthionema cordifolium* instead of "cordifolium," and *Onosma tauricum* rather than "taurica." There are nine illustrations from photographs of typical alpine plants and the positions they require.

A Practical Guide to Garden Plants.†—This is an important addition to already existing books of reference in horticulture. Every page (and they number 1,169) is full of the most modern and accurate information of just the kind that is most helpful. The scope of the book is best described by its own sub-title: "Containing descriptions of the hardiest and most beautiful annuals and biennials, hardy herbaceous and bulbous perennials, hardy water and bog plants, flowering and ornamental trees and shrubs, Conifers, hardy Ferns, hardy Bamboos, and other ornamental grasses, also the best kinds of fruits and vegetables that may be grown in the open air in the British Islands, with full and practical instructions as to

* "Alpine Plants." By W. A. Clarke, F.R.H.S. L. Upcott Gill, London and New York. 1901.

† "A Practical Guide to Garden Plants." By John Weathers, F.R.H.S. Longmans, Green, and Co., London, New York, and Bombay. 1901.

culture and propagation." The book begins, as we think such a book always should, with a glossary of terms, not only descriptive, but rather fully illustrated. Next come chapters on the life history of plants, propagation, soils, and manures, followed by lists of hardy plants for various uses. The next and main feature of the book takes garden plants by their natural orders. This plan is perhaps less convenient than a descriptive alphabetical list, in that the index has first to be searched; but it is undoubtedly more scientific, and gives the book a more serious character; also where families of plants are described, as in this case, in pleasant, easy language not over botanical, that relationship between their members that is so extremely interesting is easily grasped and learnt. In short, it becomes a book of popular as well as scientific instruction instead of a plant dictionary only. The latter part deals with Conifers, Ferns, fruit, and vegetables, and their culture. The book appears to be remarkably free from errors, though in a volume of its capacity some must necessarily creep in. For instance, we see the flowering season of *Clematis paniculata* given as from July to September, whereas it is, certainly in England, an October flower. We also think that *Claytonia perfoliata*, instead of appearing as a garden plant, if described at all, should have been denounced as a most troublesome and insidious weed. The title page announces 163 illustrations; these are, for the most part, small outline diagrams illustrating the terms in the glossary, and of methods of grafting and training. In so bulky a volume it would, of course, be easy to find here and there certain small matters for criticism, but they scarcely affect the great usefulness of the book, which we heartily commend.

THE FLOWER GARDEN.

CULTIVATION OF THE SWEET PEA.

FEW annual garden flowers have attained such a world-wide reputation during recent years as the Sweet Pea; and at the present day it unquestionably ranks as one of the most popular of summer flowers. It is cultivated more or less in nearly every flower garden, and we owe much to those that have taken it in hand, and by much care and thought by way of hybridisation have introduced to the public the many beautiful varieties we now possess. Foremost among these may be mentioned the name of that veteran raiser and grower Mr. H. Eckford, of Wem, and may he be spared many more years to further the good work in which he has laboured so long.

Delightful and effective as Sweet Peas always are in the open garden, they are equally, if not more so, when used for cutting, and when taste is displayed in arranging the colours few things, not even the most choice Orchids, can surpass them, either when arranged in suitable vases or for the embellishment of the dinner table. Owing to their long wiry foot-stalks they can be used with little trouble. The show held last year at the Crystal Palace to celebrate the bicentenary of the Sweet Pea will long be remembered by those who were privileged to see it. I think I am right in saying there were over 100 exhibitors, and the number of vases exceeded 4,000; but, unfortunately, owing to the extreme heat on the dates of the exhibition, and for some days preceding it, the flowers did not remain fresh as long as was hoped for. If the society was able to accomplish its principal object—viz., to catalogue nearly every known variety, and at the same time to select and bring before the general public all the best and most distinct kinds—an important step will have been gained, for many of the so-called varieties, even to experts, can only be distinguished by their names, and many others are too much alike to be grown in the same collection.

For some years past I have given much attention to the cultivation and selection of the tall varieties,

and to the horticultural Press I am much indebted for valuable information which from time to time has appeared. The old method of merely sowing a short row of mixed seed in some out of the way part of the garden is, I am pleased to say, little practised now. There is no reason whatever why anyone who prefers to do so should not grow them as a mixture—and well they look in this way—but I would always advise purchasing separate colours and making the mixture oneself, as by so doing a good range of colours is assured. A much better effect, however, is produced when each variety is grown separately either in rows or in clumps. When required for exhibition purposes it is absolutely necessary to do so if the cultivator's aim is to win the chief prizes.

PREPARATION OF THE GROUND.

Deep cultivation is of the utmost importance, and during the winter months the ground should be thoroughly trenched. Apply a good dressing of farmyard manure. We grew ours last season in three different parts of the garden, and in each case the ground was trenched at least 3 feet, and the bottom spit brought to the surface. We have grown Sweet Peas on one piece of ground for the past ten seasons, and some of our finest blooms were picked from here last year. I merely mention this to prove that it is not at all necessary to change the ground annually as some suggest, but when the same site is used year after year thorough applications of manure and deep cultivation of the soil must be practised. The ground after trenching should be left rough and lumpy. About the end of March give a good dressing of soot and wood ashes, and in the case of stiff land add old mortar rubble and road sand. Fork over the ground during the first week in April to the depth of about 9 inches, when all will be ready for receiving the plants.

SOWING THE SEED.

I never advise sowing the seed in the open, as the little trouble incurred by raising seedlings in pots will more than repay in the long run. They are practically safe against the ravages of rats, mice, birds, &c. A suitable compost for sowing them in is two parts light loam, one part leaf soil, and one part old Mushroom bed manure, with a sufficient amount of road sand to keep it porous, adding a 6-inch potful of bone-meal to every three bushels of the mixture. Clean, moderately drained 3-inch pots should be used, and the soil pressed in fairly firm. Fill about three parts full, and over which sow the seed, about seven Peas to each pot, selecting good plump seed. Cover with soil, thoroughly water in, and place under glass in a cool house, pit, or frame, but avoid forcing at any time. It might be well to mention here that it is always a good plan to place a tastily-baited mousetrap in close proximity to the seed, for should mice be about they will quickly discover it and in a short time do a considerable amount of damage. The time of sowing will, of course, greatly depend on the time that they are required, but it is always well to make two or three sowings at various dates. I find on referring to my diary our dates last year were March 7, 14, and 21, and all were planted by April 18. The plants should be thoroughly hardened, and when about 3 inches in height thin out and plant five at each station. For choice I always prefer planting them in clumps at a distance of 4 feet apart, and we grow them in three lines, which produces a charming effect. A little finely-sifted cinder ash should be placed about the plants. This will prevent them being damaged by slugs. The staking should be done at the time of planting, using ordinary Pea sticks 7 feet to 8 feet in length.

Little other attention will be required except regulating the growths for a time and thoroughly watering in dry, hot weather. Syringe during the early evening on bright days. In showery weather apply a sprinkling of some reliable artificial manure about every ten days or so. Once a week in early morning give a slight application of soot, which will assist in giving colour to the flowers and foliage, and at the time of flowering frequent doses of diluted farmyard manure water should be given. If wanted for exhibition ten days before the date

every open flower should be picked off, and to prolong their beauty no seed vessels should be allowed to form. In hot, bright weather, such as we experienced last season, shade with light canvas, and thoroughly mulch the ground with long stable litter.

SELECTING THE BLOOMS FOR EXHIBITION.

Fresh fully-developed spikes should be chosen with not less than three flowers on each. Place them in water immediately they are picked, and if possible convey them to the exhibition in water in suitable travelling cases. Whether in small or large collections have each variety as distinct as possible, and each shade well represented.

STAGING THE FLOWERS.

I prefer neat green earthenware vases to anything else. Suitable foliage, grasses, or *Gypsophila paniculata* are generally allowed to be used, but frequently, in my opinion, are employed too freely, especially the *Gypsophila*. A simple and pleasing way is first to place sufficient very fine grass of a dark colour to form a groundwork for the flowers to rest upon, after which the spikes should be arranged as gracefully as possible, using one at the time. By so doing each individual bloom can be distinctly seen.

VARIETIES.

I append what I believe to be fifty of the finest varieties in cultivation, and, in addition, a few novelties which I noted last year. Each promises to be distinct and worthy of cultivation.

White.—Sadie Burpee: Undoubtedly the best white, with a splendid habit, and very floriferous. Emily Henderson: Distinct, and nearly equal in merit to the above. Blanche Burpee: Another grand variety, flowers very large and well formed.

Crimson.—Salopian: Too much can hardly be said of this excellent variety, the best of this section. Cardinal: Large handsome flower.

Maroon.—Othello: Good robust habit, very deeply coloured flower. Duke of Clarence: Large deep claret. Stanley: A large handsome flower of good substance.

Orange.—Lady Marie Currie: A very pleasing orange-pink colour, and a great favourite. Chancellor: Bright orange standards of an intense colour, with splendid form and substance. Countess of Powis: This variety is unequalled for colour and finish; a splendid glowing orange self. Gorgeous: A grand colour, standards orange, wings deeper.

Pink.—Hon. F. Bouverie: A beautiful coral-pink of good substance. Royal Robe: A lovely delicate pink. Prima Donna: Very large flower, soft pink colour, and free flowering. Countess of Lathom: A splendid pink of good substance and long stems. Duchess of Westminster: Apricot flushed pink flowers.

Blue.—Countess Cadogan: A very distinct flower, the standards being a shining violet, and the wing sky blue; a desirable addition. Navy Blue: A very dark true blue, the most distinct of this section. Emily Eckford: A well-built superb flower, and a distinct mauve-blue.

Mauve.—Duke of Westminster: This charming variety is quite distinct from any other, with a very vigorous habit, particularly free flowering, and one of the very best. Fascination: A grand variety, admired by all for its pleasing form and colour.

Lilac.—Lady Skelmersdale: A very distinct bright rosy lilac. Colonel: A vigorous grower, with long-stemmed soft lilac flowers.

Blush.—Mrs. Fitzgerald: A robust grower, producing soft cream and rose flowers on long stalks. Duchess of Sutherland: A charming variety, with pearly white suffused pink flowers.

Creamy grounds tinted.—Crown Jewel: A very profuse bloomer, the standards being pale tinted with rose, and the wings creamy. Lemon Queen: A very large flower, with lemon-pink standards and white wings.

Lavender.—Lady Grisell Hamilton: Undoubtedly the best lavender we have, being wonderfully free flowering and very large. Lady Nina Balfour: A pleasing colour, delicate mauve, shaded with a peculiar grey, and very much admired. Countess of Radnor: A lovely flower; colour lavender.

Purple.—Purple Prince: A very fine and distinct variety, with deep maroon standards and purple wings; very striking. Monarch: Large flower, something like the above, except that the wings are a rich deep blue.

Pink and White.—Duke of York: Rosy pink standards, wings primrose, tinted white. Empress of India: Large flowers similar in colour to above.

Rose.—Lord Kenyon: A distinct grand addition, rose-magenta, almost a self, with long stems; very effective. Mrs. Dugdale: A beautiful rose, shaded with primrose, well-formed large flowers. Prince of Wales: This is a very fine variety, being extremely free flowering and a splendid bright rose colour. Royal Robe: Very large flower, with deep rosy pink standards and pale pink wings; very apt to sport. Ovid: Another rosy pink of fine form. Her Majesty: A rosy pink self, with a showy distinct habit.

Stripes.—America: A most beautiful scarlet striped variety, perhaps the best of this colour. Aurora: A pretty white, splashed with orange-salmon. Mrs. J. Chamberlain: A splendid flower of fine form, white, flaked with bright rose. Duchess of York: A pleasing shade of white, striped

pinkish purple. Senator: A large flower, striped chocolate on a creamy ground.

Scarlet.—Prince Edward of York: I cannot speak too highly of this handsome addition, being an immense flower, with scarlet standards and wings of the deepest rose.

Pale Yellow and Primrose.—Queen Victoria: A very handsome primrose-yellow flower. Primrose: Quite distinct, the flower being a perfect pale primrose. Captain Clarke: Although a rather old variety it is a very pleasing one, but rather difficult to describe; white ground, lightly striped with pale rose and lavender.

THE 1901 NOVELTIES.

Miss Willmott: Undoubtedly the finest novelty that has appeared for some time; very much in the way of Gorgeous, being a splendid shade of orange, but much larger. Coccinea: Quite a distinct break, with beautiful cerise coloured flowers. The Hon. Mrs. E. Kenyon: An immense flower, deeper in colour than any other primrose. George Gordon: Bright crimson standards and rosy purple wings, a striking variety. Lady M. Ormsby-Gore: Flowers produced on long stems, pale buff colour, overspread with a delightful pink.

E. BECKETT

Aldenham House Gardens, Elstree, Herts.

OPIUM POPPY (PAPAVER SOMNIFERUM).

THE large garden Poppy is one of the oldest as well as the most important of the larger annuals. It varies in colour from pure white through many pretty shades of pink and rose and almost scarlet colouring to purple, some of the rosy tints inclining to salmon colour being especially beautiful. The flower is also various in form, in some cases the doubling taking the shape of a multitude of narrow strap-shaped petals, while in others they are broader. Some also have wide guard petals, and the middle of the flower, whether of petals broad or narrow, not too tightly filled. This we think the most beautiful and decorative form. We consider that seed growers are inclined to err on the side of over-fulness. When the flower has a tight, round, mop-headed shape it loses the quality of gracefulness and that play of light and shade within the flower that give it so high a value to the more discerning critic, who prizes the best forms of beauty above mere bulk.

Often in the outer regions of a garden there is a roughish place that is without any special feature, and where no attempt has been made towards any ornamental planting. Even if the place is overgrown with grass and weeds, and it is not desired to keep it cleanly cultivated, a few gashes through the growth here and there with a heavy hoe or mattock, and a little Poppy seed sprinkled, may result in a garden picture of a high degree of beauty.

DOUBLE VIOLETS.

THESE have done well in most gardens this winter, though where airing, removing decaying leaves, and stirring the surface of the soil to admit air have not been carefully attended to many blanks amongst the plants will doubtless have occurred, owing to the prevalence of damp weather. Mr. Crook, of Forde Abbey, recently informed me that never had his Violets done better than this winter, and as the garden at Forde Abbey occupies a low damp position the excellency of Mr. Crook's Violets proves that the treatment they have received has been of the right kind. The runners must now have attention, but where cuttings are preferred, and these were inserted in fine leafy soil in boxes or in a frame in the autumn, runners

will not be required. My practice—and results have proved it to be sound—has been to place a liberal quantity of sifted loam and leaf-mould amongst the plants at the end of February for the runners to root into, and to peg the runners into it with small wooden or wire pegs, they then become well rooted by planting out time—the end of April. When the runners are left to take care of themselves they often fail to root in the frame and make but slow progress when planted out. Opinions differ as to which position is best for Violets during summer. Mr. Crook, I believe, grows his in a fairly open sunny part of the garden, and this, doubtless, in part accounts for their withstanding drought so well, but grown thus they require more frequent waterings and syringings in order to keep them free from red spider than when grown in partial shade. Last autumn I saw a fine lot of plants growing in loamy soil between rows of Apple trees in an orchard at Gunton Park, the partial shade apparently suiting them well. I find that Violets delight in a loamy compost, containing a large percentage of leaf-mould and grit. An old gardener in Essex who probably grew the finest Neapolitans in the county—by the way how few now grow this, the

rebuilt to the top of the frame with leaves and stable litter. Nowhere have I seen better Violets than in East Anglia, and at both Ipswich and Norwich Chrysanthemum shows prizes are offered for Violets, and the competition is usually very spirited. I think every Chrysanthemum society should offer prizes for Violets. J. CRAWFORD.

HARDY AND HALF-HARDY ANNUALS.

THIS interesting and beautiful family is of value for the flower garden, borders, and shrubberies; many, too, when well grown in pots, make striking features for greenhouse and conservatory decorations. Yet it can hardly be said they receive the attention their merits deserve, considering the brilliant and lasting effect that can be produced when massed in groups of one or more colours, of which there are now a wonderful variety. Some, too, are remarkably well adapted for cutting, for which there is a constant and ever-increasing demand. Sowing seed in boxes, pans, or pots is a very convenient form of raising the seedlings, the advantage gained being that of easy removal to or



HALF-DOUBLE WHITE OPIUM POPPY IN ROUGH GROUND.

most fragrant of Violets, well—used to save all the gritty sweepings of pleasure ground walks and drives for mixing with the soil.

I consider the first week in May a good time to plant out Violets. They should be planted sufficiently far apart to allow of a free circulation of air amongst them, and screened from the wind by small evergreen branches till established. They should then be mulched with old Mushroom bed material, rigorously syringed with clear water twice a week by means of a hose or garden engine, and with weak sulphur water once a fortnight.

Some like to keep the plants to a single crown, though I have never done so. I remember, however, once seeing a grand lot of plants at Blickling, most of which had single crowns, Mr. Oolee, the gardener there, telling me they were raised from cuttings, and that plants from cuttings did not as a rule form more than one or two crowns. Few now give Violets bottom heat, but in my opinion the only means of ensuring a good supply of Neapolitans throughout December and January is the employment of mild bottom heat. A good deep bed of leaves is best, and the linings should be taken down once or twice during winter and

from protection, as deemed necessary, commencing with the less progressive varieties about the middle of February, and continuing with those of quicker growth up to the end of April. A light rich compost is used, care being taken not to sow too thickly or cover the seeds too deeply. Care is also necessary in watering.

The SALPIGLOSSIS is a beautiful annual, growing about 3 feet in height, with very slender stems, bearing flowers of the most pleasing shades, numerous and varied in colour, well adapted for cutting; for dinner-table or room decoration few are more beautiful or more easily cultivated. Sow seeds in a cool greenhouse or frame, transplanting to the open ground, where, too, the seeds may be sown with success. Self-sown seeds often make fine plants for transplanting in early spring.

The EARLY-FLOWERING MARGUERITE CARNATION is easily raised from seed. One often wonders why, seeing the beauty and usefulness of this charming flower, that it is so seldom grown in quantities, though bearing flowers equal to many named varieties. Seeds may be sown during February in heat, and when large enough to handle the seedlings pricked off and planted out early in

June, ordinary garden soil being all that is necessary. If planted in the reserve garden for cutting, have frames to place over them for protection, thus considerably prolonging the flowering season, which may be, generally speaking, about six months; they grow 18 inches in height.

DIANTHUS HEDDEWIGI is a very decorative hardy bed or border plant, growing from 9 inches to 12 inches, and of easy culture. By sowing seeds during March in gentle heat, and transplanting in May, flowers appear from July to the end of October; they are of singular beauty, with a great variety of shades. The new Salmon Queen claims special notice, but all are rich and varied in colour, ranging from white to crimson, pink, and maroon, blotched and fringed, double and single—the single fringed, perhaps, being the most beautiful. Intermixed with the Marguerite Carnation in beds or borders a charming effect is produced.

COLLINSIA VERNA.—This hardy annual is well worthy of cultivation, flowering at a season when annuals are not plentiful; it is of a compact sturdy growth, about 1 foot in height, and bears flowers of long duration and beauty—white and blue—the lower lip being of the latter colour. For breakfast and luncheon table this is much admired, changes, if ever so simple, being much appreciated. This season I am growing it in pots as well as in beds. Seed should be sown early in September.

The **SWEET PEA** is a popular climbing annual. The varieties are numerous and their cultivation well understood. With regard to colours, I was satisfied last season with growing twelve distinct kinds. It is difficult sometimes to find a suitable place in close proximity to the dwelling where the perfume from this popular favourite, as well as the variety of colour, can be fully appreciated. To overcome this difficulty tubs were introduced measuring 2 feet in diameter and 15 inches deep, a distinct kind being planted in each, the plants having previously been raised in heat. Light feathery stakes were inserted all over, from 9 feet to 10 feet in height. The plants flowered during July, August, September, and October without intermission, each forming a distinct mass of colour. No stakes were to be seen, no seed pods allowed to form, nor flowers cut. Being liberally fed, the result was very satisfactory.

The **SCHIZANTHUS** and its varieties are charming half-hardy annuals. Sow seed in the autumn—say, September—in small pots in a cold frame, growing them in a cool greenhouse during the winter. They flower during April and May. Its free-flowering, light, and graceful growth (when well grown in 6-inch or 7-inch pots) is much admired; equally well adapted for the borders and shrubberies. Sow seed during April or May for summer and autumn flowering.

The **ZINNIAS**, with their richly-coloured flowers, are much admired for borders or beds. For cutting, too, their usefulness is oftentimes appreciated, and they delight in liberal treatment. Care is necessary not to sow the seeds too early, thereby avoiding checks in growth, which sometimes produce decay in the stems and causes disappointment by forming blanks whenever planted; but by sowing at the end of April, and planting out in June, good results can be attained. The plant grows from 9 inches to over 2 feet in height.

PHLOX DRUMMONDI.—When well grown this is amongst the most beautiful of half-hardy annuals, the large-flowering improved varieties being most striking. If not sown too early, and what I may term coddled, the various plants will produce an admirable effect in beds or borders, or as an undergrowth for the Fuchsia and Heliotrope as standards. Seeds should be sown about the middle of March, the seedlings pricked out under slight protection and planted out at the end of May. It grows about 12 inches in height.

COSMOS BIPINNATUS.—The flowers and foliage of this annual are much sought after, being light and well adapted for decorative purposes; where tracing on dinner-tables is practised this forms a fitting subject, having light feathery foliage, with flowers of the single Dahlia type, yet lighter in substance; colours, pink, white, rose, and yellow. It is of easy culture, growing about 3 feet. Sow

seed in March, and plant out the seedlings at the end of May.

The **NICOTIANAS**, or **GIANT TOBACCOS**, in the manufactured state can claim many admirers, and worthy, too, are they of admiration under good cultivation. The noble leaves and fragrant flowers, borne on erect and branching stems of over 6 feet in height, give them a bold appearance, worthy of a place in every garden. *Sylvestris*, of recent introduction, when planted in fairly sheltered positions, and laden with its white tubular flowers over the large green leaves, is very beautiful. Sow seeds in February in a warm house, prick off the seedlings when large enough to handle, and pot them into 4-inch pots; they make nice plants for planting in June.

Lockinge Park Gardens.

WM. FYFE.

SHORT STUDIES ON PLANT LIFE.—V.

THE ANEMONE.

WIND flowers or **Anemones**, so called from the Latin word *animosus* ("windy"), as the wind soon blows the flower to pieces, according to Pliny, are appropriate for consideration in March.

They form, together with Meadow Rue, Pheasant's Eye, Mouse-tail, and two foreign genera, a tribe of the family *Ranunculaceæ*, only differing from Buttercups in having a pendulous ovule instead of one attached to the base of the carpel.

We have two species, the Pasque flower and Wood Anemone. Both have a calyx, white or coloured. The former approaches Clematis in having a feathery style to the fruit or achene, the latter to Buttercups in having none.

The flower of Anemone is also characterised by having three leaves in a whorl on the flower stalk, which may be reduced to three bracts, constituting an involucre, as in *Hepaticas*, where it is sometimes erroneously taken for a calyx, and the coloured calyx for a corolla. This species, as well as the Poppy Anemone (*A. coronaria*), were introduced about 350 years ago from the continent.

We have seen how anthers can be converted into honey pots in the Winter Aconite and Hellebores, and thence into petals as of the Buttercup. But in the Pasque flower

(*A. Pulsatilla*) the outer rows of stamens are modified into club-shaped bodies, the anther forming a "head," which then secretes honey. The Wood Anemone appears to secrete no honey at all; but many insects come for the pollen and have been observed to fly from flower to flower, thrusting the proboscis into the floral receptacle, between the sepals and carpels, tapping it for juice, wherewith to moisten the pollen, which they collect at the same time.

It has been suggested that this process was the original cause of the formation of honey glands, inasmuch as they are only found just where the proboscis will find it, *i.e.*, all round the flower, if it be regular, and visited from any direction; but in all irregular flowers, which are situated close to the axis, so that they can only be approached from one side, the honey is to be procured also, only from the single source, just where the insect's tongue or proboscis will reach it, as may be easily seen in Larkspur, Monk's-hood, and Dead Nettle.

The Poppy Anemone is remarkable for its great variation in colour even when wild. Thus in Palestine it varies from white, rose, or pink to scarlet, and from blue, red-purple, to deep purple. In Malta, on limestone, it is always of a bluish-purple colour. Under cultivation it has become very double by petals replacing the stamens and carpels.

It will be as well to remember that Anemones, like all members of the Buttercup family, are more or less poisonous; the least so is the Water Crowfoot, upon which cattle used to feed in the Midlands; the most so is the deadly Aconite, which has poisoned many families, through their eating the root, which is *conical* and *dark coloured* in the Aconite instead of that of Horse-Radish, which is *cylindrical* and *pale* coloured.—GEORGE HENSLOW.

GENTIANA FAVRATI (RITTENER).

UPON the flowery slopes of the Gemmi and throughout the rocky pastures of the limestone Alps, which extend from the uplands of Mordes along the foot of the chain of those of the Bernese Oberland to as far as Belalp; on the



GENTIANA VERNA.

G. BAVARICA.

G. FAVRATI.

slopes of the Valais side as well as on those that face the Canton of Berne, but especially in the group of the Muveran (Vaudois Alps), is found a *Gentian* which is not *G. verna*, still less is it *G. bavarica* or *G. brachyphylla*. This plant puzzled me for many years; I was quite unable to identify it. It has to be cultivated in quite a different way to *G. verna* or *G. brachyphylla*, and, above all, to *G. bavarica*; its way of growth is also dissimilar.

A young Vaudois botanist, M. Rittener, published in 1895 a very interesting note upon the subject in the *Bulletin de la Société Vaudoise des Sciences Naturelles* (xxii., 1895). He considers this *Gentian* to be a hybrid between *G. verna* and *G. bavarica*, and named it *Gentiana Favratii*. The name of Favrat is that of one of our most distinguished Vaudois botanists; the one who is the best acquainted with the flora of the Canton of Vaud. The plant is thus described: Height, about 4 centimetres (2 inches); stalk very short, scarcely visible when in bloom; leaves small, coriaceous, shining, oval, and nearly orbicular, forming a rosette; corolla of an intense blue, lobes sub-orbicular or slightly rhomboidal, slightly wider than long.

From the garden point of view this plant is much more floriferous than *G. verna*; the blue colour of the flower is more intense, and the foliage forms larger and more compact tufts. It is easier to cultivate, and it readily makes itself at home in dry, sunny places.

It never seeds in a garden, and must be increased by division of the tufts, which, fortunately, is not difficult. I have never been in the pastures where it grows wild in the autumn, therefore I am unable to say whether it bears seed in a wild state. HENRY CORREYON.

TREES AND SHRUBS.

A PICTURESQUE PINE TREE.

(*PINUS MURICATA*.)

SOMETHING in the appearance of the tree here illustrated strikes one as being essentially Japanese. Were it not so large—it is about the height of a tall man—it might pass very well for one of those dwarfed, distorted conifers in gorgeous pots which have lately been imported so abundantly from Japan to Great Britain. Yet it is a Californian Pine (*Pinus muricata*), and has grown for many years on a little knoll by the side of the lake at Kew, where artists and photographers innumerable have exercised their skill in portraying it. It is one of a group of some half-dozen trees that represent the species in the Kew pinetum; but it is the only one so curiously and picturesquely stunted. Still, there are



PINUS MURICATA BY THE LAKE AT KEW.

others in the gardens showing a similar tendency to grow horizontally rather than in height.

Pinus muricata, however, is not one of the taller Pines. Hartweg, who introduced it to England in 1846, found it in California, in the neighbourhood of Monterey and elsewhere, reaching a height of from 20 feet to 30 feet. Jeffrey, when collecting for the Oregon Association in the early fifties, found it farther to the north on the Siskiyou Mountains, 40 feet in height. It has dark green leaves 4 inches or 5 inches long, and produced in pairs. The cones are 2½ inches to 3 inches long, nearly always more developed on one side than the other; they are borne usually in a cluster of four or five, or more, circling the branches. On some of the trees at Kew there are cones still clinging to branches that must be upwards of a dozen years old. Then the scales never seem to separate naturally and allow the seeds to fall. To get seeds one has to use a chisel or hatchet. A similar case is afforded by the Australian Banksias, the cones of which are said to release the seeds only after a bush fire has destroyed the parent plants. If I remember rightly, the same explanation has been offered in regard to the cones of *Pinus muricata*, that is, it is a provision to perpetuate the species in regions where forest fires occur. So far as I know, this is mere conjecture, but it would be interesting to have the views of some Californian readers of *THE GARDEN* who may know and have studied this Pine on its native hills.

There is one other matter of interest connected with this Pine which I believe is not generally known. It is one of the best species for planting in positions fully exposed to sea winds in the south and south-western parts of the country. A few years ago I remember

having a specimen sent for a name (I forget the precise locality, but I believe from the Scilly or Channel Islands), with the information that it succeeded even better than *P. insignis* did in the same neighbourhood, and *P. insignis* is known to be one of the most useful of seaside evergreen trees.

Kew.

W. J. BEAN.

HARDY FLOWERS.

ANNUALS AND THEIR EFFECTIVE USE.

WE have arrived at the time when readers of *THE GARDEN* are anticipating the joys and pleasures of the summer's profusion of flowers, and many no doubt have already commenced seriously to consider the form and arrangement of the coming season's beds and borders, thinking out fresh effects.

Under the category of hardy flowers I intend confining myself more particularly to annuals and half-hardy annuals and perennials that adapt themselves to being grown as annuals—of which we have so many—as these are the best subjects for creating fresh displays every year.

By a generous and unstinted use of annuals, and certain perennials it is easy to alter the whole tone and give an entirely different complexion to the garden summer after summer, gaining novelty and freshness which never fail to enhance its pleasures. Not only in detail is it possible to avoid repetition, but with little trouble these plants afford facilities inexhaustive for the annual reformation of the whole outline of the flower garden.

To be effective, as every lover of these flowers knows, it is essential to use them more or less freely in masses and to exercise care and dis-

crimination in the grouping of colours. Often an effect is marred by the introduction of a colour entirely out of harmony with the rest, and a border spoiled by the want of care in arranging the different tints and shades, but by a little study and observation a knowledge of colour effects is soon acquired.

A pretty effect, admired by everyone who saw it, was obtained here last year on a bank facing the west—over 150 feet long and 30 feet wide—by planting blue *Convolvulus*, blue Sweet Pea, a blue metallic-leaved *Tropeolum*, the violet-coloured *Maurandia*, tall *Antirrhinums*, blue *Verbena*, *Dahlia Rising Sun*, and *Tagetes signata pumila*. No design was carried out. Hazel sticks to support the climbers were placed in the ground cone-shaped, but not trim. Some of these cone-shaped supports were high, others short; some were wide at the base, others narrow, and none were very close together. Plants of the *Dahlia Early Sunrise*, a splendid early-flowering red dwarf variety, were planted about in groups of threes and fours, the *Antirrhinum* and blue *Verbena* in groups of ten or twelve, while the rest of the intervening ground was completely carpeted with the little light-leaved *Tagetes*. By the middle of June the ground was hidden and the stakes nearly covered, and during the succeeding months right into November it was exceedingly

Eutoca viscida, with the closely allied *Phacelia campanularia*, the *Commeline*, the *Pimpernel*, the blue *Phlox Drummondii*, *Verbena*, *Catananche*, and *Heliotrope* will supply the medium heights, with the dark blue dwarf *Lobelia* for groundwork. The *Commeline* and *Catananche* are perennials, but if sown early in heat will flower in July; the *Commeline*, in truth, in April.

A long border beside a terrace walk, which is more frequented in the evening than at any other time of the day, last summer was full of bright flowers, will this summer be filled solely with sweet-scented and evening flowers, such as the *Tobacco Plants*, *Evening Primroses*, *Stocks*, the evening sweet-scented *Stock*, *Marvel of Peru*, *Mignonette*, *Heliotrope*, &c., with the endeavour, as far as possible, to keep the heavy fragrances from clashing with the more delicate odours.

Chinese *Asters*, will flower in August and continue into November.

Pentstemons treated as annuals and planted in groups or masses are very effective. They come into flower early and last long if sown in heat. It is possible now to procure the seed in different shades of colour, which is a great acquisition.

Salpiglossis, *Helichrysums*, and *Scabious* are always far more effective when grouped in bold masses, but care is needful to keep the strong



OTAHEITE ORANGE.

(From a drawing by Miss Maud West.)

bright and beautiful. In August and September fresh effect was given it by the *Tropeolum*, after covering its supports, shooting out its long strong growths, covered with bluish foliage, in all directions through the yellow flowers of the *Tagetes*.

To attain this thousands of *Tagetes* plants were necessary, but they were raised in a cold frame in March, while all the others were raised as easily, with the exception of the *Tropeolum* and the *Dahlia*, which were from cuttings inserted in the spring. Another border with *Mina lobata* and sulphur-coloured Sweet Pea with groundwork of light blue *Lobelia* was very pretty.

Yellow, especially in the months of August and September, is such a predominating colour in most gardens that a border composed entirely of blue flowers—the rarest of colours during these months—is always refreshing and attractive, and it is my intention this year to devote a border to flowers as near akin to this colour as possible. I have already poles fairly well covered with *Clematis Jackmani*, which, in conjunction with tall *Larkspurs*, perennial *Delphiniums*, blue *Salpiglossis*, and blue Sweet Peas will give the desired irregularity in height to the border, while the dwarf perennial *Delphinium King of the Blues*—the finest blue of the autumn treated as an annual—

Last year a bed of *Lavatera rosea splendens* was so admired that this year I am going to fill two 6-foot borders, running on either side of a long walk, with this alone. If sown in March in the open ground it will be in flower by May, and will continue flowering until the frost stops it, by which time it will have attained a height of 4 feet or 5 feet. This is undoubtedly one of the finest of flowers.

Another splendid annual for employing by itself in beds or borders is *Callistephus sinensis*, which, if sown in frames and treated like the ordinary

colours together and the weak colours together. Beds of *Phlox Drummondii* never fail to elicit admiration, but here again it is necessary to separate the colours and also the eyed from the selfs. Sown in cold frames in March they come into flower very early.

The Corsican Daisy (*Erigeron mucronatus*) is another fine subject for bedding by itself. If sown in heat in the early months it will flower by July.

East Lothian *Stocks* in designs in the more formal garden are excellent, and are preferred to

Geraniums or any other of that class of bedders for many obvious reasons, but white should be used only in the smaller beds, as large dashes of that colour are not pleasing. To be really successful with them it is necessary to sow in heat in December, prick into boxes, and when large enough put into pots singly, and plant out in April, when they will come into full flower by the beginning of June, lasting until the end of the season.

Last year a novel and very pleasing effect was obtained by planting the blue Lobelia singly here and there at the foot of terrace walls and in the crevices of stone steps. This year I am going to plant the small single-flowered Petunia in the same way, and also in the grass at the foot of the walls in the rosary. Phlox Drummondii might be used in the same way another year.

For the last two or three years I have grown the collection of Sweet Peas in short rows with green turf paths between them, though each season in different parts of the garden. This year, to have a complete change, I am growing them in clumps or circles 4 feet through cut out of the grass turf. This certainly entailed a little extra labour in returfing, but nothing in comparison to the result of the change that will accrue from it.

Even in the wild, undressed parts of the pleasure grounds the hardy flowers have their places. If in the winter several portions of the ground have the turf on them reversed sufficiently deep to bring some of the less fibrous soil to the surface, it is possible by March or April to have, by roughly raking, a good bed on which to sow the seed of Shirley Poppies. A week or so and the ground is green, and from June until September it becomes a continuous sheet of colour. This is the best way of growing Poppies, for in the border they are but a flash in the pan, but grown as described they are always beautiful, for as one plant flowers and succumbs another pushes up and takes its place. In this kind of gardening the great thing is to avoid formality and to have outlying groups leading up to the masses.

The blue annual Larkspur gives a fine effect used similarly, for Larkspurs are always finer when sown where they are to bloom than when sown in boxes or frames and afterwards planted out.

There are numbers of annuals that lend themselves to this mode of wild gardening that with little expense give charming returns.
St. Fagans. HUGH A. PETTIGREW.

AN ARTIST'S NOTE-BOOK.

OTAHEITE ORANGE.

THE little pot Orange trees that are sold for decoration, especially in the Christmas season, are imported from Belgium chiefly, along with Azaleas, Camellias, &c., under the name of Otaheite Orange. How they got that name need not concern us here, but I cannot find any proof that the plant is a native of the island of Otaheite or Tahiti. It may be a Chinese form of the common Orange, *Citrus aurantium*; indeed, I have seen it called C.

sinensis. Whatever its origin, it is a useful garden plant, which the Belgian nurserymen have turned to some account. I know several nurseries in Ghent where it is grown in thousands yearly for the French and English markets, and it is surprising to see the freedom with which it grows, flowers, and fruits there in that magical Belgian leaf-mould. The plants are grafted, grown quickly in a stove temperature, stopped often enough to make them bushy, checked when in flower to make them set for fruits, and finished in a moist heat and sunshine. I have never seen them grown anything like as well in this country, and I doubt if it is worth our while so long as we can purchase these beautiful fruit-laden little bushes from Belgium at about half-a-crown each. The fruits hang on the plants for at least six months, retaining their bright colour to the last. They are not good to eat, but then they are not

by the fresh tints of the grass and the expanding foliage on bush and tree, the sweet singing of the birds, and the increasing light and warmth of the sun, all of which combine to give that joyous feeling which is ever associated in our minds with spring. While the subjects mentioned below are perfectly hardy the situation of the garden in regard to shelter makes a great difference in the degree of success obtained, and the most favourable situation possible should be given to them in the matter of shelter from cold winds and full exposure to the sun, thus making it more suitable for the flowers and more pleasant for those who wish to see them. First I will mention

ANEMONE BLANDA,

chiefly because it is generally the first of all to commence flowering; even before the Aconites come we have always a few flowers open. It is not so largely grown as it deserves to be. One



IN THE SPRING GARDEN AT BELVOIR.

grown to be eaten, but to be looked at. A group of them in a conservatory always gives pleasure W. W.

[*This Orange has been seldom illustrated, and the accompanying representation of it may therefore interest our readers.*—EDS.]

SPRING FLOWERS AT BELVOIR.

A LEARNED professor has lately described flowers as the "stars of the earth." This may be applied with especial force to spring flowers, which come after the dark days of winter. Spring flowers may be grown by everyone who has a small garden, and they are in some respects more to be desired than rare hot-house flowers, from none of which do we get the variety of delicate tints and abundance of bloom given by these hardy plants. Their charms are no doubt enhanced at this season

finds a few odd plants in gardens where hardy flowers are appreciated, but to see its full beauty it should be grown in a large mass. It seeds abundantly, and here probably is one of the reasons it is not more extensively grown, as the seedlings, unfortunately, vary in colour from white and lilac to dark purple. I have now a row of it saved carefully from one flower which shows all these variations distinctly. The best colour I consider is the dark purple, almost the same as seen in the Russian Violet. To keep this or any other shade true all seedlings must be destroyed, and another most important point is to lift the old roots every second year as soon as the foliage turns yellow. Dry them thoroughly, then break them in pieces about the size of Filberts, and replant the first week in August. Like most of the Ranunculaceæ this Anemone likes a rich, moist soil, but the manure should be dug in so that

the roots do not come into contact with it when planting, and not more than 2 inches of soil must be put over them. Herr Max Leichtlin has taken great pains in collecting several distinct forms of this plant, which all flower somewhat later than the type. The best of those which have come under my notice is the one which gained a first-class certificate at the Royal Horticultural Society's meeting in April, 1899, under the name of *Cypriana*. It is bright blue outside and white inside. When seen in an half-expanded stage it is a perfect gem, but unfortunately it does not come true from seed. Closely following the above is

ANEMONE FULGENS, the first flowers of which opened this season on December 25, and on January 1 I gathered a nice bunch. It is not always so early, but its bright scarlet flowers are welcome whenever they come. The cultural directions given above for *A. blanda* apply to this species also in every respect. If left in the ground longer than two years both are subject to a fungus which destroys the roots. This also varies in colour from seed, though not to such a great extent, but I do not find it growing from self-sown seed like *A. blanda*. It can be increased very rapidly by division. From 1 square yard in 1894 I have this season large beds measuring one hundred square yards, in addition to a broad row 414 feet in length.

CROCUS IMPERATI.

This flowers at the same time as *Anemone blanda* when it gets thoroughly established, and may be left undisturbed for many years. It likes a rich, moist soil, in which it increases rapidly both by division and by self-sown seed. It looks best in good-sized masses, and makes a beautiful combination as a groundwork to *Galanthus Elwesii*, the latter being planted in good-sized clumps; or growing in masses in a groundwork of Winter Aconite it looks like amethysts in a setting of gold when expanded by the sun.

CHIONODOXA LUCILE.

To see this plant in full beauty it should remain for several years without being moved; like the above also it enjoys a rich, moist soil. Although one of our prettiest spring flowers, it requires no special attention, and reproduces itself very freely by self-sown seeds and by offsets. It should be grown in a large mass. *Narcissus minor* and *N. obvallaris* may be dotted in irregular patches in the same bed.

IRIS RETICULATA

is not so easily raised in quantity as the above, and is more fleeting in its floral beauty. This must still be allowed a place in the spring garden. Its flowers are often compared to Orchids, and good-sized patches growing in a carpet of Winter Aconite look very pretty, and need not be disturbed for many years, as it flowers well in a thick mass.

The above, with Winter Aconites, *Scilla sibirica*, *Puschkinia scilloides*, Crocuses, Narcissi, and Snowdrops are the earliest of the spring flowers that we grow in large quantities, and are mentioned together here because they

are not suitable for spring bedding in the ordinary sense of the term, chiefly because they thrive better if left for two, and in some instances many, seasons without removal, hence the beds cannot be filled with summer occupants. Another reason is they should all be planted by the first week in August. The best way, therefore, is to give them a bed to themselves in a suitable position where it does not form any part of a geometrical arrangement. They can then remain undisturbed, and a few annuals may be grown thinly over the beds during the summer; but nothing must be allowed to get into a thick mass if this system is followed. Sun and air are necessary to the well-being of the roots, even after the tops have died away.

Space forbids me treating of spring bedding

thuses (yellow, white, and coloured), *P. Gilbert's Harbinger*, *Primrose Wilson's Blue*, *Primula ciliata superba*, *Saxifraga cordifolia purpurea*, *S. purpurascens*, *S. ligulata*, *S. Camposi* (Wallacei), *S. muscoides atropurpurea*, *S. hypnoides*, *Symphytum officinale variegatum*, *Stipa glauca*, *Violas Ardwell Gem*, *Admiration*, *Bullion*, *Countess of Kintore*, *Blue King*, *Broom of the Cowdenknowes*, *Cliveden Purple*, *Croft House* (white), *Cloth of Gold*, *Duchess of Fife*, *Duchess of Sutherland*, *Robinson's Standard*, *Skylark*, *Double Violet Lady Hume Campbell*, *Single Violet Russian*, *Vinca major variegata*, *Wallflowers Belvoir Castle* (yellow), *Veitch's* (dark red), *Salmon Queen*, *Ruby Gem*, *Sutton's Phoenix*, and the *Double German*.

The above form the bulk of the plants used here. Several of them have only lately been added to the list, and others are on trial. In a short article it is impossible to go into the arrangements of the above; it must suffice to state that large quantities of Tulips, Hyacinths, and other bulbs are dotted amongst them to relieve the flat appearance and give grace, lightness, and variety of colour. The tallest of the above-mentioned plants are chiefly used as dot plants for the same purpose.

A FEW CULTURAL HINTS

may be useful. *Aubrietias* do not come true from seed (many inferior forms of *A. Leichtlini* have been distributed in this way), they must therefore be increased by division of the plants in March; the variegated form must not be broken up so small as the others. *Arabis* may be divided as late as June, and, with attention in watering occasionally, will make good plants for the autumn. Daisies are now raised from seed sown in May under glass, and transplanted, as soon as large enough, to the borders in the reserve ground. The old stock which we used to increase by division has almost disappeared during the last three years owing to attacks of a minute fungus. *Erica carnea* (Irish Heath) is not so particular in regard to soil as many of its near relations, and will bear moving to and from the beds annually if carefully tended afterwards. *Myosotis dissitiflora* is raised from seed sown on a north border in June and trans-

planted to a south border when large enough; also by cuttings put in the open ground in showery weather about the end of August. *M. alpestris* *Queen Victoria* is raised from seed only, and soon reverts to the type if not carefully selected. *Phlox divaricata* should be grown in the reserve garden for two years in rich soil before using it in the beds. Rabbits and slugs are very fond of it. *Polyanthuses* (yellow, white, and coloured) are raised from seed sown in heat early in the season and transplanted to a north border afterwards. *Violas* are increased by division from March to the middle of June (the earliest make the best plants) and by cuttings put in a cold frame in October. They require a north border in the summer, and the flowers must be picked off occasionally. *Double Violet Lady Hume Campbell* is always much appre-



DOVER HOUSE FROM THE SOUTH-EAST.

fully, and I will only mention some of the most useful plants, with a few hints on their culture afterwards.

USEFUL PLANTS FOR SPRING BEDDING.

Aubrietia græca (blue), *A. g. Leichtlini*, *A. g. variegata*, *A. Hendersoni*, *Arabis alba*, *A. a. variegata*, *Auricula* (alpine varieties), *Carex riparia variegata*, *Crown Imperial* (variegated), Daisies (double white and pink), *D. Rob Roy* (scarlet), *Doronicum austriacum*, *D. plantagineum excelsum*, *Erica carnea*, *Golden Feather*, *Heuchera hispida* syn. *Richardsoni*, *Hemerocallis fulva variegata*, *Helleborus foetidus*, *Holcus mollis variegata*, *Iris foetidissima* (the Gladwin) variegata, *Myosotis dissitiflora*, *M. d. alba*, *M. alpestris* *Queen Victoria*, *Phalaris arundinacea variegata*, *Phlox amœna*, *P. divaricata*, *P. subulata*, *P. s. Nelsoni*, *P. s. Newry Seedling*, *Polyan-*

ciated, and is perfectly hardy here; we plant out about 2,000 plants every autumn. It is increased by division of the plants when the beds are cleared in the spring. Wallflowers are raised from seed sown the first week in June and transplanted two or three times afterwards. Sutton's Phoenix is sown the first week in May, and flowers all through the autumn and winter if the weather is mild.

W. H. DIVERS.

Belvoir Castle Gardens, Grantham.

BRITISH HOMES AND GARDENS.

DOVER HOUSE, ROEHAMPTON.

ONE might travel far before finding so much to interest and instruct as may be seen in the twenty-five acres or so covered by the gardens around Dover House, the residence of J. P. Morgan, Esq. Lovers of almost every branch of gardening would find their particular favourites in evidence, and, better still, all are treated alike, that is to say, they receive the best of all that experience and careful culture can give. Thus it is, no doubt, that one is impressed by the fact that horticulture is here thoroughly and earnestly practised, an impression that is more than fully borne out by the examples of cultural skill that are apparent in every department, but of these more anon.

Dover House is situated amidst pleasing and favourable surroundings, commanding as it does on the one side a view over a portion of the Thames Valley to Harrow-on-the-Hill beyond, and on the west overlooking Putney Heath and Wimbledon Common, with the Surrey hills in the far distance; it may well be described as out of London and yet in sight of and in close touch with the metropolis. The famous old trees in the immediate vicinity of the house are, of their respective sorts, some of the finest we have seen. The gigantic Copper Beech, for instance, shown in one of our

illustrations (underneath which, for many yards around the base of its trunk, is a beautiful evergreen carpet of trailing Ivy) is generally conceded by our best authorities to be the most perfect example of this ornamental tree in the British Isles. Near by a splendid specimen of *Ailanthus glandulosa* (the Tree of Heaven), that must be at least 60 feet high, is conspicuous, while *Catalpa bignonioides* and a remarkable curiously shaped tree of *Cercis siliquastrum* (the Judas tree), both of which, like the *Ailanthus*, flower very freely, are represented by specimens whose equals in age and vigour are rarely seen. On the northern side of the house there are several "Turkey Oaks," whose spreading symmetrical giant branches are now unhidden by their foliage, and their magnificent proportions fully exposed; they are, indeed, unique specimens. A curious old tree of the Cork Oak (*Quercus Suber*) is very picturesque, although it has ceased to live for some time; it is now proposed to cover it with the strongest growing climbing Roses, some varieties that were planted there



COPPER BEECH IN DOVER HOUSE GARDENS.
(Considered to be the finest specimen in this country.)



DOVER HOUSE—FRONT VIEW.

a year or so ago were not able to withstand the north-eastern winds to which this position is exposed.

Since Dover House estate came into the possession of Mr. J. P. Morgan great improvements and alterations have been carried out under the supervision of Mr. J. F. McLeod, the well-known head gardener and steward. The aspect of the pleasure grounds and flower garden is entirely changed, with the exception of course that the fine trees above mentioned remain untouched. All the old shrubberies, but a small one near to the house, have been entirely replanted; beds and borders of pleasing designs, and filled for the most part with hardy flowering shrubs, now compass the walk that encircles the grounds. It was not our good fortune to see these in the spring and early summer months, yet one can well imagine the charming effect they must produce, more particularly as bulbs of various sorts are planted in every bed. This is an excellent method of furnishing the bare surfaces of the latter, for it also gives an extended season of flowers; it is more than probable that in Dover House gardens there will be flowers open from February until September in one or another of the beds there, commencing with the earliest bulbs and closing with the giant panicked Hydrangea, *H. paniculata grandiflora*. Mr. McLeod has made quite a feature of this most useful plant in his careful rearrangement of the flower garden; it is present in the form of both dwarf bushes and standards. *Genista andreaeanus*, Veitch's new Double Cherry, Lilacs, deciduous Magnolias, Laburnums, and the

lovely *Berberis Thunbergi* (the latter in some instances made use of as a sub-shrub underneath taller plants of the others mentioned) are a few comprised in the representative collection of hardy flowering shrubs in Dover House gardens.

Wise forethought is apparent in the method here practised of planting the herbaceous border; each sort is grouped together, as is now happily more generally practised than formerly, and provision is made to ensure, as far as is possible in the space at command, an unbroken border of plants in flower. Everyone knows the disappointment so often attaching to a herbaceous border in consequence of its partially bare and untidy appearance throughout some portion of the summer time. Mr. McLeod would be doing a favour if he would be good enough to write a few notes upon this important and interesting subject, for there are now very few possessing a garden who have not their herbaceous border, that such could not fail to be instructive and helpful. Gardening is here carried on under somewhat difficult natural conditions, particularly so far as the soil is concerned. This is very poor and shallow, a fact that makes one wonder at the success with which Mr. McLeod cultivates hardy plants. One learns the secret when this good gardener tells how he treated the Rose beds, for this is but an example of how the others fared also. For many years the Roses did not grow at all satisfactorily, so they were all taken up, the soil removed to the depth of 3 feet, and replaced with freshly cut, well manured turfy loam. On such poor soil as has to be dealt with at Roehampton this is really the only satisfactory plan to follow, and in the end proves to be the cheapest.

One might write much more of these interesting grounds, for no mention has yet been made of the rockery, the fine old wall whereon flourish splendid specimens of *Magnolia grandiflora*, the Bay tree, and other plants, but it is not possible, for we must dwell

for a moment upon the glasshouses and their occupants.

It may be somewhat superfluous to make mention of them, for Mr. McLeod, if not known as one of the most successful cultivators of tender plants of the day, is not known at all, and that assuredly is not the case. The stove contains perfect examples of *Crotons*, *Dracenas*, *Aralias*, and other hothouse plants most useful for decorative purposes. The majority of the two former are raised annually by rooting the tops of the previous year's plants, so that one sees none of those unsightly bare-stemmed specimens often met with which are not worthy to represent the plants whose names they bear. But few gardens possess a better collection of *Caladiums* than that at Dover House; all the best novelties are cultivated, and although the tiny leaves are only just making their appearance, one can well imagine them when in full beauty, knowing the careful attention they will receive. The merits of *Begonia Gloire de Lorraine* are thoroughly appreciated, large quantities of it being annually raised from leaf cuttings. *Calla elliotiana* is extensively grown also, and is found to be more generally satisfactory than *R. Pentlandi*. The *Malmaison Carnations* that Mr. McLeod often exhibits so finely at the Richmond summer show are apparently in the best of health, and at this time of the year one could not say anything that would more surely predict a successful flowering season. The houses devoted to the forcing of Peaches, Grapes, Figs, &c., give evidence of the best attention, so apparent everywhere. Fruits of the last-named are already well advanced, so that the second crop will probably ripen well. Mr. McLeod does not find any difficulty in securing a good second crop of Figs, although we know that in some gardens a difficulty is experienced in getting these to develop and ripen satisfactorily. Doubtless the early start has much to do with the successful results. In addition to the numerous fan-trained trees of Peach and

Nectarine under glass, the earliest of which are now in flower, one house contains several bush Nectarine trees planted out in a raised bed along the centre. It will be interesting to know if these prove to be of permanent value, as Mr. McLeod hopes they will.

The hardy fruit trees are worth going far to see; they are simply bristling with fruit buds, and are object-lessons in training and pruning. Several years ago the majority of them, or rather all in need of it, were root-pruned and lifted, and to this practice is attributed their present splendid bearing condition. Should any show signs of gross growth or unfruitfulness, the remedy is always sought in first setting the roots to rights, for an improvement in the upper part of the tree will then most surely follow. As we mentioned at the commencement of our notes, the work in all the departments of Dover House gardens has the stamp of having been performed in a thorough and earnest manner, and we are sure, were testimony to the undoubted capabilities of Mr. McLeod necessary, nothing could be more convincing than the way in which his duties are performed, which is after all the only true criterion.

INDOOR GARDEN.

CRINUM MOOREI.

SEVERAL of the *Crinums*, noble though they are when in flower, cannot be depended upon to bloom every year, but this by no means applies to *Crinum Moorei*, which flowers with as much certainty as the blue *Agapanthus*, and with the same treatment. It is grown in many gardens, and is greatly valued where a display of flowers has to be maintained at all seasons, for this *Crinum* as a rule blooms towards the end of the summer and in early autumn, at which time many of the occupants of the greenhouse or conservatory are on the wane, and the shaft-like spikes of this

Crinum, each crowned with an umbel of beautiful blossoms, form then an attractive feature. The flowers when first expanded are pure white, becoming slightly flushed before they drop. As will be seen by the accompanying illustration a succession is kept up from one umbel for a considerable time. Where convenience exists for planting out in the greenhouse or conservatory do so, as it succeeds perfectly with such treatment, which may be seen in the temperate house at Kew. Still, in the majority of gardens this cannot be done, and the best way of treating it after its earlier stages are past is to grow it in tubs, for it quickly increases by offsets, and the roots are so vigorous as to frequently burst the pots. A compost consisting of two-thirds loam and the remaining third made up of manure, leaf-mould, and sand will suit this *Crinum* well. Briefly its cultivation may be summed up in keeping quite dry in a structure from whence frost is just excluded from October to March, when it must be watered, and will quickly start into growth. As the noble head of foliage develops give occasional doses of liquid manure. Soon after midsummer many of the plants will show signs of going to rest, when less water may be given. Directly the flower stems appear an ample supply of moisture must be maintained, as the spike develops quickly, and needs a considerable amount of nourishment. When the flowering season is over they may be stood under a south wall or in some similar position, in order to thoroughly ripen the bulbs, removing them under cover when autumn frosts set in.



CRINUM MOOREI.

All these remarks apply, of course, to districts where it is too tender for the open ground, but in the favoured parts of England and Ireland it may be planted out with safety. In the Botanic Gardens, Glasnevin, where hardy *Crinum*s are so well grown, this species is one of the most satisfactory. The bays around the Palm House at Kew are just the place for such subjects, as they can be readily protected, and in addition benefit by the heat of the structure. These bold masses of different *Crinum*s there form one of the most attractive features of the garden during their blooming period.

Crinum Moorei is a native of Natal, from whence it was introduced over a generation ago. Treated at first as a stove plant, it did not show its true form until grown under cooler conditions. The different individuals of this *Crinum* are not all of equal merit, as the flowers of some are superior to others, while in a few instances the leaves are retained till the flowering period in a much fresher state than occurs in the majority. I have noted this latter feature for several seasons, the same plants showing this peculiarity year after year.

There is one well marked variety—*variegatum*—in which the leaves are freely striped with creamy yellow, and in the spring and early summer, while the foliage is still fresh, it is very attractive. The blossoms do not differ from those of the type. This just mentioned variety is not at all a common plant. No mention of *Crinum Moorei* would be complete without directing attention to a hybrid obtained by fertilising the flowers of both the rosy and white forms of *Crinum capense* with the pollen of *C. Moorei*. This was effected by Mr. Powell, of Southborough, Tunbridge Wells, and the progeny has under the name of *C. Powellii* proved to be a grand hardy *Crinum*, and is now a very general favourite. A considerable amount of variation exists in the case of *C. Powellii*, for what is usually regarded as the type has light rose coloured flowers, then there is a pure white variety (*alba*), and one with rich rose flowers usually known as *rubra*. A deep soil is necessary for the huge club-shaped bulbs of *C. Powellii*, and owing to the brittle nature of their long leaves a sheltered spot must be chosen for them.

H. P.

Spring-flowering Shrubs.

[NOTES FROM CAMBRIDGE.]

PERHAPS there is no brighter time than about the end of the spring season, when double and single Thorns, Lilacs, and Laburnums unite with certain other kinds to produce their masses of colour; but there is never a day, even in winter, if weather permits, when there is not some beautiful or interesting shrub in flower. It may not be uninteresting to pass in review some of the shrubs which brighten the winter, and anticipate, as it were, "the green lap of new come spring." Nothing exceeds in value the well known

Jasminum nudiflorum, the brave golden flowers of which are conspicuous at least from November to March. In earliest January, and lasting until March, we have the sweet-scented

Chimonanthus fragrans, its flowers, too, of considerable beauty. In the Cambridge Botanic Garden we have a form of very pale colour, hardly deeper than the grey bark of the twigs, but still,

it must be said, very attractive. There is a small flowered variety called *luteus*, with deep yellow flowers rather later in appearance than the others. There is also the favourite variety *grandiflorus*, with large deeply coloured flowers, and which, if one be selected, is the most desirable for ornament. As winter-flowering plants, it is not easy to omit a reference to the species of

Hamamelis. Of the older, *H. virginica*, the Wych Hazel, of medicinal repute, and in Virginia yielding an edible seed, we have a fine shrub, and during midwinter, from early December to February, it never fails to produce myriads of its tiny yellowish brown flowers. Of more showy character and deserving to be remembered are the Japanese kinds, *H. arborea* and *H. zuccariniana*. It will be interesting to learn by experience what value the new species (*H. mollis*) is for our gardens. It is in the hands of Messrs. James Veitch and Sons, and is said to have the largest leaves and the brightest yellow flowers of any in the genus. Winter-flowering shrubs do not seem very scarce, for in the early days of the year, and lasting on into March, we have on the walls

Lonicera fragrantissima and *L. standishi*. They are much alike, but different, both with pure white and very fragrant flowers, which quite wreath the bare shoots. With slight protection—and especially it must be in mild localities—

Veronica linearifolia is useful; it produces a succession of white blossom, conveniently arranged on twigs for cutting. To leave now the earliest days of the year,

Daphne laureola, *D. phillipiana*, the common Hazel, with its pretty red styles *Garrya elliptica*—usually recorded much latter—and Gorse may be mentioned as flowering on January 5 two years ago. About the middle of the month the

Cornelian Cherry (*Cornus Mas*) begins to open its tiny yellow flowers; small as they are, they produce through their number a very bright effect, which lasts for some weeks, and they are succeeded later on by quantities of red ornamental fruits, which make an excellent jam, said to be of medicinal value. The tree is still planted for its fruit in some parts of the continent. One of the most valuable of early-flowering shrubs is the

Laurustinus; near Cambridge, on a wall, I have seen it fully in flower early in December. Usually

in the garden it tries to open about the middle of January, and, according to the weather, it may be in full bloom from about the end of the month. Unfortunately, it is killed by very low temperatures, as might be expected from its South European origin. There are several varieties, and one often meets with *Viburnum Tinus* var. *lucidum* from the Atlas in Devon and Cornwall.

About the end of the month we have one of the prettiest and largest flowering of the Heaths,

Erica carnea, valuable in a district of chalky soil, and apparently the Heath that can best endure a soil of that description. The shrubs of January may, of course, usually count for February, but to the latter month others especially belong the Cowslip scented

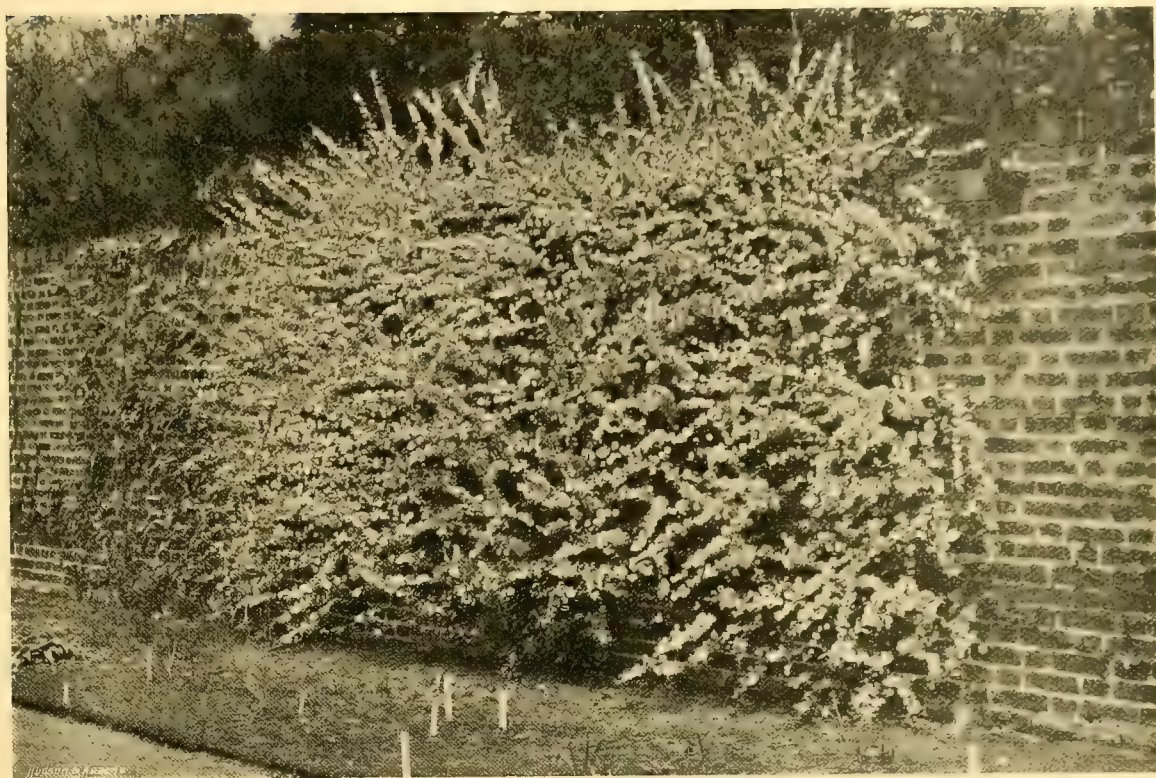
Corylopsis spicata, with flowers of pale yellow and bracts of the same colour, appearing before the leaves; it produces a charming monotone effect, and is very attractive on account of its singular appearance. It belongs to the Wych Hazels, but the flowers are on pendulous racemes. This should be mentioned for the latter part of the month. In many gardens the white and red varieties of

Daphne mezereum are early in evidence, and later the flowers are succeeded by very showy red fruits. At this early season such a small floriferous shrub never fails to attract attention. The whole plant probably is poisonous, and the bark is used in medicine as a stimulating irritant.

Kalmia glauca, a very pretty plant, though not so showy as *K. latifolia*, I have noted in flower during this month, and *Kerria japonica* succeeds sometimes in producing a few blossoms.

Early spring in Cambridge is not of the gentle nature we are apt to associate with the season. The town lies quite close to the extreme southerly corner of the great Fen land country which extends unbroken to the Wash, distant due north about forty-five miles. The Botanic Garden is about 36 feet to 40 feet or 41 feet above the level of the sea; there are no very high hills towards the east, and easterly winds are troublesome. In spite of this, however, the shrubs, fortunate probably in possessing a cold sap instead of warm blood, begin to flower in variety as March comes in.

Forsythia suspensa makes a shower of gold on the side of a wall, and in the open nothing could be more effective. *F. Fortunei* is the same thing,



PRUNUS TRILOBA AGAINST A WALL.

but *F. viridissima* is quite different, with stiffly erect branches and of value in its own way. One of the most useful of spring-flowering shrubs is the evergreen,

BERBERIS AQUIFOLIUM, for not only are the flowers attractive, but the evergreen dark green leaves, tending to bronze and even sometimes red in colour, are distinctly handsome.

PEAS, or *ANDROMEDA FLORIBUNDA*, is noteworthy on account of its freely produced white flowers. Even in this beautiful season what can be more charming than the pink

ALMOND, which scarcely flinches when planted in the worst of windy corners. Nothing could be more charming than the single variety, but the double is not perhaps so frequently planted as it should be. A fine mass of another species, *Amygdalus nana*, is a choice possession of the Cambridge garden. The flowers are like those of the Almond, but the tree reaches only from 2 feet to 3 feet in height, extending in all directions by new growth from below ground. It stands in danger of restriction by scythe and machine, but a few stones readily afford the required protection, and seem also to suit the plant. Several of the allied genus *Prunus* come forward this month, and what more beautiful, for instance, than

PRUNUS TRILOBA, one of the most lovely subjects for the shelter of a wall. *Prunus sinensis* fl.-pl. also on a wall is hardly less delightful, and nothing can surpass it for the purity of its white flowers. Other kinds include the red-leaved *P. Pissardi*, which is said to be much improved by cutting back in order to have strong shoots, and *P. divaricata*, which perhaps more properly belongs to April. Another of the order is the well-known *Cydonia japonica*, of which we have the pure white, the common deep scarlet, and a pink, all of which last in flower for a long time. Yet one more ally must be pointed out, viz., *Spiraea Thunbergi*, one of the most beautiful of all the species. One of the prettiest of tree effects, late in the month, is produced by the drooping pale yellow flowers of

ACER SACCHARINUM, which appear before the leaves. Well known in most gardens is

RIBES SANGUINEUM, the so-called flowering Currant. The deep rose of the ordinary form is prettier than the pale pink, and preferable to the double red. Much more uncommon is the Fuchsia-flowered Gooseberry, which, however, requires a wall. The pendulous crimson flowers are exceedingly attractive, and they are so Fuchsia-like that a very good authority has made a mistake at first sight.

PIPTANTHUS NEPALENSIS, the so-called evergreen Laburnum, has proved hardy for many years with wall protection, and its large golden flowers, combined with dark green leaves, are of pleasing effect, though not so fine as those of the Laburnum proper.

NUTTALLIA CERASIFORMIS is decidedly one of the prettiest and most interesting of March shrubs, continuing to flower also in April. It is of good habit, and produces a large quantity of dull white flowers in drooping racemes. The fruits, too, are pretty, not unlike those of a small Plum, of reddish yellow colour, with a Plum-like bloom. It must be noted that the flowers are liable to be dioecious, and so, therefore, the sexes must be planted together, though I have obtained fruit by sticking branches of the male flowers among those of the female shrub. Individuals with the sexes united may be found, but it is not, I think, usually the case. Not at all to be despised are a few of the

EARLY WILLOWS, especially *Salix Caprea*, the Great Sallow, which bears large golden-yellow male catkins and silver-grey female ones. It is a useful species, able to supply a bark good for tanning, which contains also an effective substitute for quinine. This Willow is sometimes called Palm, and is used in the religious ceremonies of Palm Sunday.

Cambridge.

R. IRWIN LYNCH.

(To be continued.)

Dr. Augustine Henry, F.L.S., the eminent traveller and botanist who has done so much good work in China, from where he has sent home specimens of great value both botanically and horticulturally, is returning to England on leave.

GARDENING OF THE WEEK.

FLOWER GARDEN.

HERBACEOUS BORDERS.

NOW that the weather is again mild all planting of herbaceous plants should be brought to a conclusion. Autumn planting is undoubtedly the best for most of these when dealing with divisions from home-grown plants, but when one has only the small pieces it is best to wait until spring, and to extend special care to such plants after they are planted. In planting one has to be governed more by one's surroundings than by any hard-and-fast rules. A system of grouping in which colour and contour are wisely managed is undoubtedly the most effective where the borders are broad enough to admit of this treatment; but attempts to carry out these ideas on the usual rather narrow herbaceous borders of gardens will certainly result in something like failure. In such borders there must be some approach to order, and this can only be produced by the old-fashioned plan of putting the tall growers at the back and graduating the rest towards the front. This never results actually in the flat surface of which one reads, for even individual plants of the same species vary somewhat in height, and this irregularity is quite sufficient to break up the flatness and to produce a good effect. I do not approve of the dot-plant system, but of a modified system of grouping that does not entail absolute regularity or repetition; I certainly do not like to have tall plants brought too near the walks.

SUBJECTS TO PLANT.

The hardiness and perennial character of most border plants lead to some amount of neglect in the matter of keeping up to date with the newer and improved varieties, as one has to clear out the old to make room for the new. The enterprise of some nurserymen who have made a speciality of improving and selecting the most valued occupants of the hardy flower garden deserves encouragement; a good plant takes no more room than a poor one, and the improvement among such things as *Paonies*, *Phloxes*, *Gaillardias*, *Delphiniums*, *Pyrethrums*, *Michaelmas Daisies*, &c., during the last decade has been great, and consequently the enthusiastic grower will always be on the look out for such plants, and will make room for them in some way or other.

TIME OF FLOWERING.

In many gardens it is necessary to cater more especially for a certain season, and in planting this should be borne in mind, and the principal borders, or that portion most under the eye, should be filled with plants that flower in the required season. The old objection to mixed borders, that they always contained some plants out of flower, may be avoided in this way far better than by filling up the blanks with weedy annuals. Here I have arranged the principal borders for autumn-flowering plants only, and all the spring and early summer-flowering subjects have been relegated to borders by themselves. This has proved much more satisfactory than the usual mixed style. Seeds of many things will now require sowing under glass. For late flowering few plants are better than the *Pentstemons* for effect, and there are many good strains of seed on the market. The only objection to seedlings is that one cannot depend on the colours blending quite well. *Pentstemon* seedlings are slow growing at first, and there should be no delay in sowing now. *Antirrhinums*, too, require to be sown early. These come true to colour, and are wonderfully free-flowering, the same plants blooming all the autumn and quite up to the time of frost. They may be had of almost any height, and are therefore suitable for many purposes. *Lobelia* for edging purposes may be sown now, but it is necessary to obtain a good strain of seeds or somewhat weedy plants will result; the better way is to grow plants from cuttings.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

KITCHEN GARDEN.

FORCED VEGETABLES.

KEEP up a constant supply of forced vegetables during the spring months by making weekly sowings of French Beans, either in pots or heated pits, and by the introduction of Asparagus and Seakale roots to the forcing pits. All of these choice vegetables can be produced in much less time now than during the dull winter months. Cover up Rhubarb in the open garden with long litter, placing a few bent stakes over the crowns to keep the covering material from pressing too hard on the young shoots. Continue to plant Sharpe's Victor Potato in heated pits, and make further sowings of Early Horn Carrots in cold frames, to come into use in advance of those about to be sown on a south border, which should be done on the first favourable opportunity. For early Carrots it is essential that the soil be of a light sandy nature. They may be sown in drills 8 inches apart and 1 inch deep, and covered with finely sifted soil from the potting shed; a barrowful of fine soil will cover a good-sized border, and may be scattered with the hand from a basket. This covering of fine soil will greatly assist germination, and repay the cultivator for any extra labour. As soon as the plants are large enough they may be thinned out to 3 inches apart, after which they will require little further attention than hoeing and keeping clean. Early Paris Market, the root of which is almost round, and Early French Horn are good varieties for the first sowing.

GENERAL SEED SOWING.

Another sowing of early Peas may be made for succession in a sheltered position. Tall growing varieties should not be used for another fortnight, when they will be less likely to suffer from rough wind. Good varieties for this sowing are Sutton's Early Giant, 2½ feet; May Queen, 2 feet; Chelsea Gem, 15 inches; and Veitch's Acme, 2½ feet. The last-named variety is of recent introduction, and comes to maturity very early. Sow wide enough to allow a row of Victoria Spinach between each row of Peas. It will come into use early, and may be cleared off the ground before the Peas are ready to gather. Lettuce sown in September and protected during the winter should now be planted out on a warm south border, or in double rows under a Peach wall where the soil has been prepared for them, and sowings made in boxes of Sutton's Mammoth White Cos, Early Paris Market, Veitch's Perfect Gem, and Tom Thumb, all of which should be placed in gentle heat until they germinate, when they must be removed to cool quarters to keep the young plants from becoming drawn. Sow Celery, Cauliflower, and Cabbage in the same way; also Brussels Sprouts for planting out in May to produce Sprouts in September. A good sowing of Broad Beans may be made in the open garden as soon as the soil is dry enough. They may either be sown as drills 2½ inches deep or planted in double rows with an ordinary garden dibber. Broad Windsor and Veitch's Long Pod should be planted 3 feet between the rows. They are well known varieties, and the quality all that can be desired.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

INDOOR GARDEN

TUBEROUS BEGONIAS.

THE seedlings will now be in a fit state to handle, and should be pricked off thinly in seed pans. A light, finely-sifted soil, with a liberal proportion of peat, must be used, and the drainage should be properly laid; slight shading against strong sun will be an advantage in giving the tiny seedlings a fair start. Just give enough tepid water through a fine rose to settle the surface soil, and very light sprayings through a syringe are essential.

The flowering season of *Clivias* approaching, the foliage must be properly sponged, and where any stray leaves are in evidence they should be carefully tied up; frequent applications of farmyard liquid manure, as the flower spikes are developing, should be given. Zonal Pelargonium cuttings should be potted up into 3-inch and 4½-inch pots,

using rough fibrous loam, leaf soil, and sand, and to each barrowful of this should be added a 6-inch potful of Thomson's manure. Moderately firm potting is advised.

Azaleas which have been forced and their flowers picked off should be put into a somewhat brisk temperature and the syringe freely used to induce fresh growth to break away; and Genistas, having flowered, to be treated similarly. The Coleus is still grown in many gardens, and the present is a good time to put a batch of cuttings into small pots, which, when rooted, should be put into $4\frac{1}{2}$ -inch pots, fairly rich soil, with a dash of Clay's Fertiliser added, and full exposure to the sun will have the effect of producing the desired high-colouring, without which a Coleus is nothing more than a weed. Aralias are plants seldom seen in good condition in private establishments, and this is partly due to the fact that they rarely receive the necessary attention. Grafting I have found the best method for producing high-class plants, and for this purpose no better stock than *Aralia filicifolia* can be used, though I have been successful with *Panax Victoriae* and *Aralia Chabrieri*; still I prefer the former. The union should be made as near the surface of the soil as possible.

GREENHOUSE PLANTS.

The latest batch of Freesias having made about 3 inches of growth may have the usual support given, viz., a few pieces of an old birch broom placed round the sides of the pot, and a shred of matting put round the whole to keep them in place; give weak liquid manure as before advised; syringe the plants frequently. Those which have already flowered should be liberally fed that the best possible bulbs may be prepared for the autumn; full exposure to sun is also beneficial. Continue to supply the flowering-house with plants from the forcing quarters. Lily of the Valley, so very much in favour in any winter, is doubly so this year, and liberal quantities should be pushed on to meet the demand. If the best Berlin Crowns have been secured, little difficulty beyond a moist high temperature in darkened quarters is experienced. Azaleas indica and Mollis are also invaluable in filling the basket, the extreme range of colour in the latter make them greatly appreciated; the bases of the petals will require to be well sprayed with floral cement or they soon fall away. Lilacs, too, must be produced, and though not so satisfactory or profitable as the two former, are admired and welcomed on account of their delicious scent. Genistas must not be overlooked, nor should the common yellow Daffodil. Many of the Narcissus family lend themselves freely to forcing, and are excellent subjects to deal with when flowers have to be sent some distance. Roman and Italian Hyacinths will also be in flower and last a long time when placed in a cool house. Callas still sending up their spathes should be encouraged by stimulants. Farmyard liquid manure, where this can be had, is the best, and should be given, say, twice weekly. The later batches of Cyclamens will, under the influence of spring sun, be looking quite gay, as also will the earlier plants of Cineraria, and should be kept quite cool. A fumigation once fortnightly will keep the latter free from aphids. J. F. McLEOD.

Dover House Gardens, Rotherhampton.

FRUIT GARDEN.

MELONS.

Now is a suitable time to start an early crop of these fruits, as there is no gain whatever in too early sowing and then allowing the plants to remain a long time in the seed pots. Seed sown now in a brisk heat and the soil watered sparingly until the plants are well above the soil will give better results, and the plants will be strong enough to go out in the middle of March. At that date with lengthening days and more sun heat growth will be rapid. I need not enter into minute details with regard to raising the plants. This is very simple, but I would add that from the time the seedlings are above the soil grow them as near the light as possible. The beds should be prepared if bottom heat is obtained from manures, as it is necessary

to get the rank heat and steam exhausted before planting. The bed should be made firm to retain warmth as long as possible, and place the soil in position for the plants a few days in advance of planting. A good sound loam that has been stacked for a few months is best, and only half the soil should be given at the start, the remainder being supplied in top-dressings as growth is made. Avoid soil in a wet state, and if the plants are at all weak when planting use a little fine soil near the roots. The temperature for Melons should be liberal, 65° at night 10° higher by day, with a free use of sun heat. Ventilate sparingly during bright sunshine, avoid cold draughts, and maintain ample atmospheric moisture.

CHERRY HOUSES.

Many gardens have not space for Cherries, but few fruit trees are more valuable, as they come in advance of other kinds when there are few choice fruits to select from. Trees can be forced in pots with great success where a house cannot be wholly devoted to the trees, but of course it is necessary to have trees specially prepared with a good ball of roots. Trees potted up now and merely given cool house protection for a time will make good forcing material for another year. Few trees are more impatient of heat than the Cherry. At the start there must be no hurrying; indeed, what is termed the natural treatment must be adopted as far as possible, as it should be borne in mind that the Cherry in the open is often in bloom when the weather is cold, and though there is less fear of injury by a liberal temperature by sun heat, there should be free ventilation when the thermometer is at 50° to 55° . Do not allow more than 50° by fire-heat until the fruits are set. The night temperature at the start should not exceed 45° , and a few degrees lower when the nights are cold. Aphis is one of the worst pests these fruits have to contend with, so that it is advisable to fumigate freely before the flowers expand. Also take care that the roots do not need moisture. Trees in pots dry quickly, and those on back walls in bloom should be fertilised during bright sunshine.

FORCING STRAWBERRIES.

Plants started early in the year, as previously advised, will now be in full bloom, and will need more attention in the shape of a drier atmosphere and more ventilation in bright weather. The plants should be gone over daily, the flowers being fertilised during bright sunshine about noon, and in the case of plants carrying a lot of bloom remove a portion of the weakest flowers to give those left greater strength and assist swelling. Early forced

plants are usually grown in $4\frac{1}{2}$ -inch pots, and these soon dry in bright weather. When the plants have sufficient fruits set liquid manures should be given in a tepid condition, and at the start give them rather weak, increasing the strength as the fruits attain size. At this stage the temperature may be increased—say an advance of 10° to 15° by day and half that quantity by night—with a liberal rise by sun heat. Close early in the day to husband sun heat, and cover the glass of low pits at night to avoid hard firing. Another lot of plants should be brought on for succession, following out the cultural details advised earlier. Plants will force more quickly now than in December, and to keep up a regular supply place a certain number in the forcing houses every three weeks in the quantities needed.

G. WYTHEN.

Syon House Gardens, Brentford.

NURSERY GARDENS.

MESSRS JAMES CARTER AND CO.

MANY of those whose business or pleasure it is to be associated with the production of winter-flowering plants in the near neighbourhood of London are very often heard to complain of the great disadvantages under which their work is practised. To a great extent, no doubt, such is true, and knowing this we were all the more agreeably surprised to see in the Forest Hill Nurseries of Messrs. James Carter and Co., of High Holborn, plants so robust and flowers so finely coloured as is the case with the Primulas there on view. At the time of our visit they were, however, not quite at their best; for as the Primulas are here grown solely for producing seed, it is the object of Messrs. Carter's cultivators to have their plants in flower as late as possible, and the reason for this is evident. Flowers produced during the months of February and March would naturally be more robust than those opening in January, pollen would be more abundant, and longer and sunnier days are then reasonably expected; with these advantages, an increase in the quality and quantity of seed is obtained. The strains of Messrs. Carter's Primulas give evidence of most careful selection, and the beauty of form and colour now obtained fully reward the care and labour that have been bestowed upon them.

Before referring to the many proved varieties of sterling merit that are noticeable in the houses at



CHINESE PRIMULAS IN MESSRS. CARTER AND CO.'S NURSERY.

Forest Hill, we would first draw attention to two splendid new Primulas that Messrs. Carter hope soon to send out; they are named respectively King Edward VII. and Queen Alexandra. Of the latter we are able to give an illustration. This is a charming double flower, pure white in colour, and although the plant is of a robust habit of growth, the leaves are not so vigorous as to hide the beauty of the flowers in the least. It is the result of several years' hybridising and selecting from Carter's Snowflake, and is perhaps the purest double white Primula yet raised. We feel sure this will become a general favourite when once horticulturists have had an opportunity of proving its merits. Primula King Edward VII. has large white flowers of the Bouquet strain, which are beautifully frilled. It is an exceptionally good grower, and the heads of flower are well thrown above the foliage on strong stems. It is the result of a cross between Improved Elaine and Carter's Bouquet.

Princess May, also known as Carter's Pink, is one of the most dainty of pink Primulas, and undoubtedly one of the prettiest of Messrs. Carter's

is, however, a valuable point gained when a variety of Primula is produced that is so striking in colour as to at once make itself evident. There are now so many of these flowers that have no distinctive feature about them at all. The colour of Lilac Queen is perhaps best described as lilac-purple; it is very free flowering, conspicuously so, and the flowers are very serviceable in a cut state. Imogene is worthy of note as a pretty pink, free blooming, Fern-leaved sort; while one that has the provisional name of Carnation Striped, a double flower, pale brick-red in colour, will probably become a favourite with those who care for this colour.

In Vermilion Messrs. Carter have a sterling variety. To us, however, vermilion seems somewhat of a misnomer, for we should say the colour is more correctly described as a rich crimson. Whatever doubt there may be as to its exactly correct colour (and shades of colour are most difficult to define, scarcely two persons giving them alike), there is none as to its claim to be one of the best of the single Primulas. It is, apparently, a very popular one also, to judge from the quantity of plants that Messrs. Carter cultivate of it.

We might, did space admit, and it doubtless would interest many of our readers who grow these delightful winter and early spring flowering plants, mention several other varieties of Primulas that Messrs. Carter have proved to be worthy of culture by repeated tests and trials; but those who wish for further information should consult the exhaustive lists of flower seeds that Messrs. Carter publish annually. In them will be found the most approved varieties of Primulas, Cinerarias, Cyclamen, &c., seeds of which, together with those of hardy flowers, fruits, and vegetables innumerable may be obtained. Messrs. Carter make a speciality of packets of

mixed seeds of Primulas, &c., an entirely delightful method of distribution, and to those who do not care to have named varieties most useful and satisfactory.

MISCELLANEOUS.

THE VIRGINIA WOODS

A DISTINCTIVE appearance of the woods in this part of the United States is due to the very large size and the many different species of forest trees which they possess, as well as the luxuriant growth of shrubs and small trees with conspicuous flowers which form their undergrowth. Add to this the prevalence of wild Grapes, Virginia Creeper, Smilax, Bittersweet, and other climbers that embrace the trunks of the lofty trees and turn small ones into bowers and canopies, and the carpets of wild flowers, such as Violets in many species, sheets of blue *Mertensia virginica*, slopes covered with Blood Root, *Dicentra*s, *Anemones*, *Hepaticas*, and many other nurselings of the spring, and one can get some idea of the beauty of our forest without crossing the Atlantic to see them. In this article I design rather to give a sketch of our woodlands than to describe any particular class of plants.

The unity which many landscape artists admire so much does not exist for us, yet Nature knows how to produce harmony out of variety. Thus in a bit of woodland only a few acres in extent may

be found Oaks in several species, Hickories, Black Walnuts, and grand Tulip trees, with straight columnar trunks towering above the Oaks, and an undergrowth of many flowering shrubs, and Brambles, Viburnums, Amelanchiers, Elders, Thorns, Red-buds, and Cornels, all tangled together with wild Roses, Raspberry and Blackberry Vines, and interlaced with Virginia Creeper and wild Grape, which often leaving the low growth aspire to reach the tops of the tallest trees, from which they depend in veritable chains, or curtain the inner recesses of the woods, adding another element of mysterious grace to the secluded scene.

The only evergreen indigenous to the woods in the neighbourhood of Rose Brake is the Red Cedar (*Juniperus virginiana*). Some ten miles away on the Martinsburg Road we find a different soil, where slate takes the place of limestone, and here two specimens of Pine trees flourish, but in the woods of which I speak the Red Cedar, a tree seldom over 30 feet in height, is very common.

Few trees assume so many shapes or such diverse colouring as does the Red Cedar. In youth it is often beautiful and in old age picturesque, but, much as I love it, I cannot claim for it that it fulfils the chief mission in life of an evergreen, which is to look cheerful in winter. I sympathise with the Cedar for looking as I so often feel on dark lowering wintry days, dull and sombre, but I could wish that it were of as brave and verdant an aspect throughout the gloomy season as are some of the Pines and Spruces.

However, such as they are, these trees are a common feature of our woodlands, growing under the shade of the majestic Oaks and Tulip trees and springing up in clefts of huge limestone rocks. They clothe the picturesque cliffs of the Potomac wherever they can get a foothold, forming an effective background for bright flowered deciduous shrubs.

Late in April or early in May, according to the season, our woods are at their best. Their beauty at this time consists in the soft tender mist of green that envelopes the forest trees in contrast to the rich rosy red and creamy white of the fringe of the Red-bud and large flowering Dogwoods that form their borders. In a patch of open woodland not far from Rose Brake the ground is thickly carpeted with *Mertensia virginica*, shading from light to pure blue, with buds of a charming shade of pink, and it is one of our spring pleasures to drive to this enhancing spot on a bright morning in May to enjoy the feast of delicate colours. The masses of *Mertensia* seem to reflect the new-washed blue of the sky, and the tender shades of rose and warm white of the Red-bud and Dogwood blossoms that surround the shallow basin, with the soft new greens of the taller trees, make up an exquisite picture, to which the wood sparrows, hidden in the bush, seem to give fitting expression in bursts of rapturous song.

On one such occasion I remember how I longed for a camera, though no camera could do justice to the colour effects of the scene. Totsie, my little girl of three, dressed in simple white frock and sun bonnet, sat on a stump in the middle of a small clearing, her little feet on a clump of the *Mertensia* blossoms, and her lap full of a medley of wild flowers. Her eyes, with an expression of childish wonder and delight, were raised to a Dogwood tree, from which a cardinal grosbeak was whistling his best and wildest. Her presence just there seemed to give the needed human touch to complete the picture, but, alas! I had no camera.

In many of our woods and wooded hillsides the groups and masses of dark red Cedars form just the right background for the gay blossoms of those boon companions, Red-bud and Dogwood, which are never more effective than when thus displayed. I recall several localities where the Cedars grow among and at the feet of huge grey boulders of limestone rock interspersed with Shad bushes, Cornels, and Red-buds, where the beauty of the picture is still further enhanced by the delicate wild flowers, such as the common red Columbine, the Virginian Saxifrage, and the colonies of Violets and Rue *Anemones*, springing from the crevices in the gaunt old rocks.



DOUBLE CHINESE PRIMULA QUEEN ALEXANDRA.

standard varieties. The flowers are a distinct and true pink, and are borne in fine large trusses. Holborn Ruby, a Fern-leaved variety, in colour a brilliant crimson-rose, is very conspicuous, somewhat similar, though much deeper in colour, to Carter's Rose—one of the very best in Messrs. Carter's collection. The flower trusses, as well as the individual flowers of this latter, in colour a lilac-rose, are exceptionally fine, and no greenhouse can well afford to be without it. In our photograph, showing just a portion of one of the houses, two varieties are represented, Rose Queen and The Queen. The former is a particularly free-flowering sort, bearing blush-pink blooms. The Queen, or Carter's White Queen, to give it the correct name, has one noteworthy characteristic which renders it of great value—it flowers throughout a very long season; the blossoms are a dainty delicate white, and contrast pleasingly with the pale green Fern-like foliage.

Elaine Improved has finer flowers and is of a better habit than Elaine; in fact, it may be said to be very well and correctly named. To those who have long known Elaine as one of the best all-round single white Primulas, Elaine Improved will need no recommendation. In one of the houses devoted to Primulas we were much impressed with one particular variety. It caught the eye at once upon entering, and upon closer examination proved that the first good impressions formed of it were quite justified. We refer to Lilac Queen. It is certainly one of the most distinct double Primulas cultivated at the Forest Hill Nurseries, although to some, perhaps, the colour would not appeal. It

I have taken the hint from Nature at Rose Brake, where in a wild part of the grove we have a rocky ledge covered with Cedars. By transplanting some Red-buds and Dogwoods to Cedar Ledge, as we call it, and covering some of the rocks with Ferns and wild flowers, we have transported a bit of real woodland scenery to the home grounds.

Both of these flowering trees transplant very easily when small, and none of our rare exotics are more beautiful in their season of bloom. This article is already too long, but I should like at some future time to endeavour to picture another woodland scene that we think worth a long drive to enjoy.

DANSKE DANDRIDGE.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

ORIGIN OF HYBRID NYMPHÆAS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The introduction of *Nymphæa Frœbeli* has awakened new interest in the cultivation of aquatic plants, and comment has been made in the columns of THE GARDEN as to the origin of the highly-coloured *Nymphæas* of M. B. Latour-Marliac. Cultivators have speculated as to the different species and varieties of *Nymphæas* that were at his command before he effected anything startling, but nothing has been told or revealed to shed a ray of light on this perplexing question. Yet as the seasons come and go new varieties periodically made their appearance, and the list of new high-coloured hardy *Nymphæas* grows larger. Otto Frœbel makes no claim to cross-fertilisation. His *Nymphæa* is a selection from a number of seedlings of *N. Casparyi*. This species produces seed freely in the United States as well as in Europe, though by no means so plentifully, as this *Nymphæa* is not well adapted to this climate, and we never expect to see such quantities of seedlings and so varied in colour as we saw in the Royal Tottenham Nurseries, Dedunsvaart, Holland, during the past season. This variation may possibly be due to the proximity of other *Nymphæas*, and cross-fertilisation may have been effected by insects, as it was stated that no artificial pollination had been attempted. M. B. Latour-Marliac's productions are undoubtedly the result of carefully selected species and varieties, distinct types, and artificially cross-fertilised. During the past decade *Nymphæa* culture has received great attention in the United States, and many striking novelties have been added to the list of native hardy varieties as well as to the long list of tender *Nymphæas*. No better field for operation exists than the United States, where all sorts of aquatic plants are grown out of doors in summer, and the hardy *Nymphæas* commence to flower in April, being succeeded by tender varieties which continue until the end of October. The aquatic gardens of Henry A. Dreer have a world-wide reputation, and during the past few years have been visited by representative men of the trade, horticulturists, and others from the United Kingdom of Great Britain and Ireland, France, Germany, Holland, Belgium, New Zealand, Hawaiian Islands, and Japan. Many new varieties have been disseminated from this nursery, and several have received the distinguishing marks of superiority and distinction by the Massachusetts Horticultural Society, one seedling being awarded the society's silver medal. The firm of Henry A. Dreer makes a speciality of *Nymphæa* culture, and large shipments are annually made to Europe. The firm is accredited the highest standing in England, Belgium, Holland, and Germany, as well as the United States, and all leading firms in Europe and on the continent can attest to these remarks. No other firm in the United States has offered for sale hybrid hardy *Nymphæas* of American origin, such as N. Wm. Falconer, N. Wm. Doogue, N. James Brydon, &c. Yet,

surprising as these remarks are, and may appear uncalled for, I beg to ask your correspondent, Mr. F. W. Burbidge, if he will state his reasons for this remark in THE GARDEN of January 19: "So far as I know but few, if any, seedlings are raised in America from American-sown seed, and there is a wonderful Marliacean 'look' or appearance about some of the so-called American seedling Water Lilies." Does Mr. Burbidge dare to malign such a firm as Henry A. Dreer? I challenge him to prove that these *Nymphæas* are not what they are claimed to be. They are not so-called American, but what they are described. Will Mr. Burbidge give a just reason for such a startling statement or withdraw what he has said? Such statements throw discredit on the well-known firm who have distributed American hybrid hardy *Nymphæas*.

WM. TRICKER,
Manager Aquatic Department.

Riverton, N.J., U.S.A.

PEAR OLIVIER DES SERRES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I fully agree with all Mr. Wythes has to say with regard to this Pear (page 93). I, too, have always found it an abundant cropper, so much so that it is necessary to thin the fruits freely whilst young if fine specimens are desired. Like Bergamotte d'Esperen, it must not be gathered until late in the season (a few degrees of frost not being harmful), and then it should be stored in a cool place and brought forward to ripen as required. Its chief characteristic as far as appearance goes is, as Mr. Wythes points out, the dark brown russet skin, which, combined with the size and symmetry of the fruits, renders well-grown examples very handsome.

A. WARD.

LATE PEARS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I quite agree with the article in THE GARDEN (February 9) as to the merits of President Barrabé and Olivier des Serres, of which I send you a photograph half size. We are using this Pear now in fine condition. I have also Mme. Millet, which is not worth growing. We have still Beurré Rance, but it has not borne well this season.

JAMES THORPE.

Coddington Hall, Newark-on-Trent.

IRIS TINGITANA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—My experience of *Iris tingitana* in Scotland is not so long as that of your correspondent "C. W. D." in his garden; so far as it goes it corroborates his. *I. tingitana* flowered with me the first year after planting in my garden. It also bloomed in 1888, which I attribute to the long spell of warm, dry weather in the previous year. Since that time it has made no attempt to flower. Without knowing positively the locality whence your other correspondent wrote I may say, however, that I have found that plants which require ripening off in summer, with less rainfall than we have on the west of Scotland, frequently do better in the east, even if in a higher latitude. Thus I should not be altogether surprised to hear that *I. tingitana* flowered near Dundee, although I should hardly expect it to. Perhaps your correspondent who speaks of it doing so well will favour us with some guidance as to the county in which this *Iris* flowers, and will also kindly say if the plants have been long in their present place?

Carsethorn, by Dumfries, N.B. S. ARNOTT.

GRAPES LADY HUTT AND APPELY TOWERS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Mr. Coomber (page 73) has incidentally introduced a remark of mine, made some time ago, in reference to the grafting of the above Grapes on to the Madresfield Court variety as being tantamount to "putting the beggar on to the gentleman." I do not yet see any reason to alter that

opinion, as I fail to see the utility of so doing, or what we hope to gain by thus producing what everyone admits to be inferior quality Grapes. Indeed, grafting and inarching experiments are rather to be deprecated generally, for even in the case of testing a new variety the influences of stock and scion are so subtle and erratic that a correct result is not obtained in that way. We have personally tried a good many experiments respecting this influence of stock and scion. Sometimes we have fancied what we thought to be distinct advantages, but when the supposed gains have been again submitted to another unbiassed trial and more complete ordeal our fond illusions have been exploded—consequently, disappointment. We are, therefore, forced back to the conclusion that by our own experience, as well as by all the available information of others, neither of our high-class quality Grapes are positively or permanently improved by any help of grafting on to any foster parents. Neither are any of our second-class Grapes one whit the better, or any single advantage gained, by any system of grafting on to foster parents as compared with those self-same varieties when thoroughly well grown on their own roots independently. Now we had concluded that this bogey of cracking of berries of Madresfield Court had been well and truly laid long ago. Nevertheless, it appears necessary to repeat that this cracking is entirely atmospheric, and I hope Mr. Coomber will kindly test this and report the result in THE GARDEN columns. Treat as other vineries up to the time when you expect to see the first signs of colouring, both as to atmospheric and border moisture, now begin to gradually keep the atmosphere of the vinery more and more buoyant by keeping artificial heat in the pipes night and day (least, of course, when the sun shines full on the vinery), regulate the amount of ventilation accordingly, but never quite close the ventilators, and preserve a good brisk temperature of, say 60° at night, which will thus keep the inner atmosphere moving, damping down floors not to be entirely withheld, but regulate according to the amount of dry sun heat and the amount of moisture in the outer air judiciously admitted. Early forced Madresfields hardly ever crack, but chiefly those mid-season ones—growers are far too loth to supply a little artificial warmth, so as to prevent that heavily-charged cold, stagnant, and fatal atmospheric moisture, the real cause of the mischief. We have advised this to many, and where applied with intelligence has proved a sure remedy and brought many grateful thanks.

Madresfield.

W. CRUMP.

YELLOW-FLOWERED ARUM LILIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—If "D. T. F." (page 444) will turn to the number of THE GARDEN for March 31, page 246, he will find a communication from that valued correspondent, Mr. John Roberts, Tan-y-bwlch, North Wales, detailing the behaviour of a group of *Richardia Pentlandi*, which was planted out in a moist spot, but the experiment did not prove sufficiently satisfactory to recommend further trial. It should also be borne in mind that this referred to the behaviour of *Richardia Pentlandi* out of doors during the summer, and not to its frost-resisting qualities, and that as it failed in such a favoured district there is little hope for it elsewhere.

That these yellow-flowered Arum Lilies have proved a great source of disappointment to many cannot be denied, and this is, I think, principally due to the fact that by nearly all writers and in many nurserymen's catalogues they are spoken of as a counterpart of the common Arum Lily, but with golden blossoms, whereas they differ in several well-marked particulars. In the first place they, as a rule, flower naturally during the spring and summer months, after which they go gradually to rest, and pass that period in a quite dormant state. Then they start freely into growth, develop their leaves, and then flower. Both *Richardia elliottiana* and *R. Pentlandi* form tubers like those of a *Caladium*, whereas the Arum Lily, even when rest-

ing, and that takes place in early summer, is never quite dormant. In comparing the relative hardiness of these *Richardias*, the fact seems to be generally overlooked that the *Arum Lily* itself is a native of Cape Colony, where in many places, even in the southern portion, it is a veritable weed, almost choking up ditches and small water-courses. The yellow-spathed forms, on the other hand, occur naturally much farther north (in the Transvaal district or thereabouts), so that as a matter of course they need more heat for their successful culture; indeed, the tubers develop much more quickly if given the temperature of an intermediate house, or even a stove, during their period of growth, while the blossoms, of course, remain fresh longer if removed to the greenhouse as they develop. My experience is that *R. elliptica* is more robust in constitution than the other, and, if they all go to rest at the same time, the tubers of this start into growth earlier than those of *R. Pentlandi*. Concerning the common *Richardia æthiopica*, it may be pointed out that one of its popular names, viz., the *Lily of the Nile*, is a complete misnomer, as it only occurs wild in Southern Africa. H. P.

LAW.

PHARMACEUTICAL SOCIETY *v.* WHITE AND THE TRADERS IN POISONS SOCIETY.

In the Court of Appeal on Wednesday and Friday (February 13 and 15), the Master of the Rolls and Lords Justices Collins and Romer finally decided (we understand the Pharmaceutical Society do not intend to carry the matter to the House of Lords) the above important case. Our readers know the beginning of the matter, as we have kept this question in view since it first became a subject of so great importance. The Pharmaceutical Society then appealed to the Divisional Court of King's Bench, where two judges—Mr. Justice Grantham and Mr. Justice Channell—held that Sir Richard Harrington was right in his decision, but they gave the Pharmaceutical Society leave to appeal. The last case was a second appeal by the Pharmaceutical Society against a decision given in the Divisional Court of King's Bench. The Master of the Rolls and two Lords Justices unanimously held that both Courts below were right in their respective decisions, and the appeal was accordingly dismissed with costs, Mr. White's counsel, Mr. Cavanagh, and Mr. Orr not being so much as called upon.

Our readers will observe from the foregoing that the Pharmaceutical Society in this hotly-contested case has received a crushing blow in their fight for a monopoly which the Pharmacy Act of 1868 conferred on chemists, viz., the sole right to retail any compound containing a scheduled poison.

Reverting to the question of monopoly, it will be seen that by this new decision the florist and seedsman have less to fear from the chemist than was formerly the case. Still, however, the question of monopoly undoubtedly remains, though in a less accentuated form. The restrictions to trade still exist, because the seedsman to be on the safe side must follow the course of Mr. White's dealing and only sell the article, whether it be weed-killer, insect destroyer, or sheep-dip as an agent, and not as a principal. Of course, the law of the matter as it stands is an absurdity. But this is in the course of being changed. We have often called attention in our columns to the good work done by the Traders in Poisons for Technical or Trade Purposes Protection Society, of which society Mr. Dobbs, who has so skilfully conducted Mr. White's case, is the secretary. This society is fighting the Pharmaceutical Society in every possible way.

Mr. Dobbs informs us he will gladly give any of our readers who send him a post-card full particulars of his society. All traders should support the Traders in Poisons, &c., Society, of 5, Clement's Inn, London, in its endeavour to pass "A Bill

intituled an Act to alter and amend the law relating to the Sale of Poisons and Poisonous Compounds for agricultural and other trade purposes" by every means in their power and within the scope of their purses. Those traders interested who are not already supporting the society are invited by the committee to become subscribers, and thus enable the society to push on more rapidly the good work already so well in hand. Annual subscriptions, 5s.; donations, 10s. and upwards.

Obituary.—Mr. George Goodall.

For a number of years George Goodall had been associated with Mr. John Downie, and previously with Messrs. Downie and Laird, and was well known as a florist and as a judge of florists flowers throughout the east of Scotland. He died at Beechill Nursery on the 13th inst., at the ripe age of seventy-eight, a good type of the man with whom floriculture in every respect agreed. For very many years he was the late John Downie's right-hand man in the raising and cultivating of Pentstemons, Phloxes, Hollyhocks, &c. In private life he was much respected, and possessed a fund of quiet humour of the kind known among Scotsmen as "pawkins."

Scientific committee of the Royal Horticultural Society.

—We are pleased to see that this committee is waking up thoroughly, and a report we have received contains many useful notes, some of which we reprint. Among the latest additions we are pleased to find our contributor Mr. G. S. Saunders, who possesses an extensive knowledge of insect life. He is a quiet worker in the scientific world, and his assistance upon the committee will be of immense value.

Mr. John P. White, the Pyggle Works, Bedford, sends us illustrations of garden seats in many varied and beautiful designs. That known by the name of the "Pyggle," which combines three garden seats in one, so as to almost form a semi-circle, is particularly picturesque. The garden shelters, so useful for placing on tennis courts, bowling greens, &c. are also illustrated.

Early-flowering Chrysanthemum show.

—A novel exhibition of early-flowering Chrysanthemums, organised by Mr. William Sydenham, Tamworth, will be held in the Town Hall on Saturday, September 28. All takings over bare expenses will be given to the Tamworth Church Lads' Brigade Funds. No entry fees will be charged, but 10 per cent. will be deducted from prize money towards expenses.

Societe Francaise des Rosieristes.

—The fifth congress of this society will take place at Nice, on Tuesday, April 9, in the large hall of the Palais de l'Agriculture. This congress, which is organised with the co-operation of the Horticultural Society of Nice and the Alpes Maritimes, will be presided over by M. Viger, late Minister of Agriculture and President of the Société Nationale d'Horticulture de France.

Galax leaves and Leucothoe sprays.

—Mr. Harlan P. Kelsey, Highland's Nursery, Kawana, North Carolina, sends us illustrations of several methods of employing the above for house decorations. They are most suitable for arranging in vases, and for use in wreaths, crosses, &c. The brilliant colouring in Galax leaves, bright green and rich bronze, their unique shape and long wiry stems, make them exceedingly popular in America with florists. Nearly 30,000,000 were used last year in the States. Brilliant deep green sprays of the Leucothoe are obtainable, and abroad it is one of the most graceful of evergreens.

Wolverhampton Floral Fete.—The thirteenth annual exhibition will be held this year on July 9, 10, and 11. All entries close July 2. The secretary is Mr. W. E. Barnett, Snow Hill, Wolverhampton.

Hanley Horticultural Fete will take place on July 3 and 4 in Hanley Park. Entries for plants close June 28, and for cut flowers, fruit, and vegetables on July 1. Mr. J. Kent, Hanley Park, Hanley, is the horticultural secretary.

Kidderminster Horticultural Society.

—There is every probability that this will become an important Midland society. Fresh

vigour is being infused into the management of it, members are joining in considerable numbers, representing all classes, and the institution of a series of monthly lectures is proving very attractive. The meetings of the society are held at the Workmen's Club in the centre of the town, and there are not a few enthusiastic amateur gardeners among the working men. On the 13th inst. Mr. Richard Dean delivered, on the invitation of the committee, a lecture on the Daffodil, before a large audience, the Mayor occupying the chair. After a brief sketch of the history and development of the flower, and its rapid growth in the popular estimation during the last thirty years, the lecturer proceeded to illustrate the characteristics of the different types and sections by means of living flowers, which were handed round for inspection. Cultural details were largely dwelt upon and special points enforced as to preparation of the bed, this method of culture being recommended in preference to patches in the flower beds and borders, which have an unsightly appearance when the foliage begins to decay. Attention was called to drainage where required, to the nature and preparation of the soil, the importance of early planting, and where necessary early lifting, and many useful cultural hints were thrown out. The decorative uses of the Daffodil were dwelt upon, and information was given as to its culture as a great commercial industry. Considerable surprise was manifested at the details given by the lecturer, showing the extent to which in some parts of the country the Daffodil is grown, both for the sale of the blooms and also of the dry bulbs. The method of forcing or hastening into bloom was demonstrated, and the culture for early bloom in pots advocated. Some ornamental bowls of Daffodils grown in Cocoa-nut fibre were sent by Mr. R. Sydenham, of Birmingham, and these afforded opportunity to demonstrate how the Daffodil, and especially the varieties of the Polyanthus Narcissus, can be grown indoors. On the motion of the Rev. G. F. Eyre, a hearty vote of thanks was given to the lecturer, and a similar compliment was paid to the Mayor for presiding. In returning thanks, his worship alluded to the excellent work such societies were capable of performing, and he expressed the pleasure he had derived from taking part in the proceedings. The next monthly lecture will be by Mr. H. J. Jones on the Chrysanthemum.

BOOKS RECEIVED.

"Wide World Magazine," "The Captain," and "The Sunday Strand," February numbers, from Messrs. George Newnes and Co., Southampton Street, Strand, London. The February number of "The Studio" is delightful. The first article is entitled "Coloured Etchings in France," by Gabriel Mourey, with a series of interesting illustrations, and a reproduction in colours of a coloured etching by Steinlein, entitled "La Blanchisseuse." "Mr. George Frampton, A.R.A., and His Work for the Glasgow Art Gallery" has six illustrations, and there are many other features. The present issue is the commencement of a new volume (the twenty-second).

TRADE NOTE.

MR. C. E. WEST, ROUNDHAY, LEEDS.

WE have received a booklet from Mr. West giving descriptions of his garden sundries. Everything that one can think of as being necessary for use in a garden is provided. Insecticides of all kinds, fertilisers, ivorine labels, metal labels, Hyacinth and Carnation supports, Orchid and Fern baskets are but a few of them.

GARDENING APPOINTMENTS.

MR. H. HARRIS, for the past two years head gardener at Coedriglan Park, Cardiff, has been appointed to the same position to Mrs. Jenner, Wenvoe Castle, near Cardiff, taking up his duties on March 1.

MR. GILBERT KERR, son of Mr. Alex. Kerr, Kalemouth Nurseries, has been appointed to the responsible post of head gardener to Hon. Mrs. Baillie Hamilton, at Langton House, Duns.

Notice to Correspondents.—We should be obliged if those who occasionally send notes or articles would be so good as to put their full name and address on the manuscript itself. If it is on an accompanying letter the two often get separated. It is also specially requested that in cases where payment is desired it should be clearly stated at the time the MS. is sent.

THE GARDEN.

No. 1528.—VOL. LIX.]

[MARCH 2, 1901.

NEGLECTED OPPORTUNITIES.

NOTHING in gardening is much more satisfactory than to make use of beautiful vegetation in a variety of ingenious ways in order to make waste places profitable, and to clothe what is unsightly with a mantle of beauty.

There is scarcely a garden in existence where some such opportunities do not occur, while many gardens and spaces near houses simply abound in waste or ugly corners that cry aloud for the exercise of just that little amount of thought and trouble that may convert them into places of beauty and delight.

Now that orders for flower seeds are being sent out, it may be well to note a few plants that may be grown quickly, and may serve during the coming summer to do the temporary work that may later be done more thoroughly with permanent plants. A great deal can be done with ornamental Gourds alone. All they want is a space of rather rich earth to root in, when they can be trained on a hedge bank, on low walls, on the roofs of low buildings or faggot stacks. There seems to be Gourds of all shapes and for all purposes, from the great orange Potiron for heavy work to the little toy kinds, the size of an Orange, for training on light supports; Gourds round and long, bottle Gourds, and serpentine Gourds, and the useful as well as beautiful Vegetable Marrow. If one had to live for a year in a house where there was no garden, but only the shapeless heaps of an old gravel pit or mounds of builders' rubbish, how beautiful it could be made by late summer, with here and there a good hole prepared, and with clever arrangements of sticks and stakes; with Gourds great and small, and Japanese Hop and Major Convolvulus and Runner Bean on poles festooned from pole to pole, and *Cobæa scandens*, a plant that in one season will make prodigious growth; and best of all with Nasturtiums of the old trailing kind, including the Canary Creeper.

Then for poor banks in hottest sunshine there are the annual Iberises, *Silene* and *Saponaria*, the blue Stonecrop, and the gorgeous *Portulacca*. An unsightly heap of garden rubbish is a paradise for Gourds both to grow in and to ramble over. Globe Artichokes or Cardoons sown in such a place are grand plants of noblest foliage by the end of the summer. Kitchen yards, so often dull and dismal, can be brightened by plants grown in

any old box or packing case, perhaps sawn in half and filled with Stocks or Asters, or any other half hardy annuals, or sown with *Mignonette* or planted with a few *Geraniums*.

There is a plant for every place, and every kind of circumstance, save only where the air is poisoned by chemical fumes.

We advise our readers to walk round their home domains now before the rush of the many interests that the later season brings, and search out their ugly places and invent ways of redeeming them. Wonders can be done with the free-growing *Roses* alone, and with *Clematis montana* and all the other good rambling things, and meanwhile much ugliness may be alleviated by the use of the far clambering and free trailing annuals.

NOTES OF THE WEEK.

Violet culture.—A seasonable note.—To obtain strong plants for autumn and early winter flowering the plants should be propagated at once. Select healthy plants, and pull off all side growths. To most of these a few new roots will be attached. Pot them singly into 3-inch pots in a mixture consisting of two parts leaf-soil, one of cocoanut fibre refuse, and one of loam. Water well, and plunge them in the fibre in a cold frame as near the glass as possible. Keep close and shaded for about a fortnight; after that admit air on all favourable occasions, and gradually harden them off ready for planting out. The position for their summer quarters should be slightly shaded during the hottest part of the day. Dig up the ground deeply, and work in a quantity of wood ashes, road grit, and spent Mushroom manure near the surface. About the middle of May is a good time to plant; the bed should be made firm before planting. The pots will be found full of roots, and should not be disturbed more than is necessary. Water them well in, and keep the hoe moving among them during the next few weeks. They should then be mulched with stable manure, not too fresh, and during hot weather be well syringed in the afternoon. This will keep down red spider, and must not be neglected. The mulching materials must be constantly stirred with the hoe, all side shoots be picked off, and every endeavour be made to keep the plants to one crown. The cause of the failure to obtain Violets during the winter through the plants damping and other evils can be traced in most cases to the want of proper attention during the hot summer months. For early supplies the plants should be in the frames by the end of August, and for later pickings not later than the middle of September. Too late planting should be avoided, and is a source of failure to get early and abundant pickings. Another cause of failure is excessive coddling after the plants are put into the frames. The lights should never be put on until frosty nights make their appearance, with the exception of very heavy rains, and then they should be tilted at the back to allow of a free circulation of air. During the winter, on all favourable occasions, the lights should be taken

off; and at night, during hard weather, a little air may be left on, unless the frost is unusually severe. Stir the surface occasionally, keep runners and dead leaves picked off, and apply Clay's Fertilizer once a fortnight or liquid manure, and there will be flowers in abundance.—M. TAYLOR, *Penbedw, North Wales.*

Camellias in the open.—In THE GARDEN of February 16 I was glad to see your correspondent, Mr. Dugmore, advocating the planting of *Camellias* in the open. It seems generally recognised that these plants or shrubs are perfectly hardy. As your correspondent remarked in his note they are even harder than the common *Laurel*. I have myself seen the latter seriously injured by severe frosts when the *Camellia* has escaped unscathed. Some years ago many fine, and at one time valuable, specimens were sold for a few shillings, and some even destroyed as they were not considered worthy of house room. If these had been planted out in suitable positions and soil they would now be embellishing many a garden with their bright and persistent foliage. A few miles from here are some fine examples which have stood many severe winters uninjured. They were originally under glass protection, being then trained to the back wall. When the protection was removed the *Camellias* were allowed to remain in their position unprotected. They have now grown outwards from the wall into fine specimen bushes, and in most seasons quite a respectable lot of good flowers is secured.—J. EASTER, *Nostell Priory Gardens.*

***Zephyranthes candida*.**—Having read "W. W.'s" description of *Zephyranthes candida* and Canon Ellacombe's remarks, might I give my experience of this charming little bulbous plant in Lincolnshire? About six years ago a friend gave me a dozen bulbs. Thinking them tender I had them potted and kept in a cold frame during the winter. In the summer they were stood out in the sun, still in their pots, but never a flower or bud. They increased enormously. I had dozens of bulbs, they were subdivided and repotted each year, still no flowers. Last spring I, myself, took some out of the pots, pulled them apart (for the little bulbs got matted together), and just stuck them into a loose gravel and sandy path under the south wall of a greenhouse. In August they began to flower, and continued to do so for weeks, their lovely glistening white *Crocus*-like flowers lying wide open in the sun. However, they did not look very tidy in the path, so in the autumn I had them all up again, and had a small border made under the greenhouse, and thickly planted with *Crinums* and *Belladonna Lilies* at the back, and quantities of the *Zephyranthes candida* all amongst and in front of them. I now await the result with much anxiety and curiosity, and trust the *Zephyranthes* will do as well in the carefully made border as they did in the somewhat rough gravel path which it supersedes.—MRS. PORTMAN-DALTON, *Fillingham Castle, Lincoln.*

The Cambridge Botanic Gardens and Mr. Lynch.—Mr. Burbidge, of the Trinity College Gardens, Dublin, writes: "Kindly allow me one word of friendly appreciation of the illustrated notice you gave (on pages 109-110) of the Cambridge Botanical Gardens, its genial and enthusiastic curator, Mr. Lynch, and its rich and varied botanical treasures. I have known Mr. Lynch ever since our old student days at Kew, and

it is ever a great privilege and pleasure to see the countless phases of vegetation in the Cambridge Garden, wherein so many rarities have flowered for the first time during the past twenty years or more. To be at Cambridge in the time of Apple blossom and early nightingales is a day to be remembered and marked with a white stone. The late Mrs. Lawrenson ("St. Brigid") once spent a day amongst the Irises at Great Shelford and in the Cambridge Botanical Gardens, and she often returned to that as having been one of the happiest of days she ever spent in a garden.

Apple King of Tompkins County.—This Apple, which was introduced from America, is excellent for dessert at this season. Mr. Allan grows it at Gunton, and considers it quite as good, if not a little better, than Blenheim Orange, which is saying a good deal for it. With care it will keep till April. It is of large size, conical in shape, the flesh being soft and of very rich flavour. I do not consider it suitable for cold soils or districts, though it did well with me as a horizontal cordon on the Paradise stock in a sunny position in a garden in South Notts. It succeeds as a standard in warm, well-drained soils, and well deserves the attention of growers of choice dessert Apples for market.—J. CRAWFORD.

Galanthus Robin Hood.—Among the Snowdrops in flower here in the first week in February none are more beautiful than this hybrid, raised by Mr. James Allen. I am not quite certain what its precise parentage, but from the folding back of a part of the leaf it has probably one of the plicatus forms as one of its parents. It came to me in flower last year, and looked as if it would be a great acquisition to my collection, but one could not judge of it properly except with regard to its size and form. Now, however, that it is seen growing in the garden and in flower, one can realise its beauty. It is of perfect form and of great substance, and is borne upon a stout, firm stalk, which holds it well up. These beauties are conjoined to another charm in the shape of broad, handsome leaves. It is a really superb Snowdrop, and one whose bold bearing is not inaptly associated with the name of the famous freebooter of Sherwood and Barnsdale. One dare not, however, go too far in saying that the name is otherwise appropriate.—S. ARNOTT, *Carsehorn*, by *Dumfries*, N. B.

Messrs. Russell and Son, Richmond.—The name of Messrs. Russell is so intimately associated with hardy evergreen and flowering shrubs, cultivated in large quantities in their various nurseries around Richmond and in Essex, that we will not at this season of the year say much about them, as we hope to have the pleasure of referring to them at a later and more appropriate period. It is, however, most interesting just now to see in the propagating houses at Richmond and Isleworth the tens of thousands of cuttings of various hardy plants, such as Ives, Hollies, Osmanthus, Euonymus, Euryas, Aucubas, &c. Plants of these various shrubs are apparent in many sizes from cuttings recently inserted to well-grown specimens in the nursery grounds. Messrs. Russell have one of the most complete collections of Ives in the country, the individual species and varieties giving a wonderful range of form and colour. Some raised there have not yet been sent out, while others again are old favourites. We will not now attempt a description of any of them, leaving that to a future occasion, when they may be seen under more favourable conditions. It was in the Richmond nurseries that the great decorative value of the Aucuba as a pot plant was first recognised, and many are now familiar with the groups of finely-berried plants that Messrs. Russell have often exhibited at the Drill Hall. A new variety with beautiful scarlet berries and finely variegated foliage has recently been raised in these nurseries and is sure to become popular as soon as distributed. In the glass houses there is much of interest, Aralias, Codiaums (Crotons), and Dracenas are now being propagated in large quantities. The first-mentioned are decorative plants of great value, not nearly sufficiently grown as their merits deserve. Such varieties as Veitchi, V. gracillima, Chabrieri,

elegantissima, and filicifolia make charming pot plants for the stove. Perhaps the reason they are not more largely grown is because of the difficulty experienced in propagating them. Messrs. Russell graft their plants chiefly upon Aralia filicifolia. The Oleander (Nerium oleander), another plant whose merits are not fully appreciated, is largely grown in the Richmond nurseries. Palms of many varieties and other stove plants too numerous to mention fill several houses and are fast developing into useful specimens.

Glasgow Botanic Gardens.—We understand that the parks committee recommend, with a view to securing greater unity of management in the work of the department as a whole, that the duties of Mr. James Whitton, the superintendent of parks, should be extended to the Botanic Gardens, which are at present under the charge of Mr. Daniel Dewar, curator.

Grape Chasselas Vibert.—This makes an excellent outdoor Grape. I have seen it in excellent character on a south wall in the gardens of Gunnersbury House, and Mr. James Hudson speaks very highly of it. In bunch and berry it resembles the prolific Sweetwater. It is hardy and prolific, and makes a good pot Vine. It is recommended for a cool vinery. The leaves in decay do not take on the warm tints of some varieties as they die yellow.—R. D.

Campanula balchiniana.—Why this charming variegated hardy Campanula is not more grown surprises me greatly. Its white and pale green variegation is delightful just now, and yet delicate as it is no charge can be brought against it as being "miffy." I have a plant of it at the present moment in a pot in my cold greenhouse, and the soil in the pot has been frozen hard on three or four occasions, but not the slightest harm has resulted. In a warm greenhouse it makes a delightful subject as an edging to plant stands, and it is also a very pretty basket plant. It is a sport from a hybrid raised between C. isophylla alba and C. fragilis.—R. D.

Stock Grace Darling.—One of the very best of the white annual Stocks I have grown is named Grace Darling. It is said to be an improved form of the Giant Perfection, the Perfection Stock being probably the very best strain of annual summer Stocks grown in this country. Most gardeners grow the well-known Princess Alice, a finely formed pure white Stock that is remarkably free, and throws up plentiful spikes of clear white double blossoms of the finest form. Last season I grew Grace Darling by the side of it, and I am bound to admit the last-named gave the finest blossoms, while it is the equal to Princess Alice in all other respects. It is a very free branching Stock, in growth it forms a perfect pyramid, from 18 inches to 24 inches in height, according to the richness of the soil in which the plants are grown. It is so free branching that a well grown specimen will form eight or ten side spikes about 12 inches long, and if these are cut lateral spikes are put forth. This Stock is worthy of being looked after.—R. D.

Galanthus plicatus Fraseri.—It is not everywhere that the noble Galanthus plicatus, the Crimean Snowdrop, is long enough lived to give satisfaction to its owner, though this can hardly account for its sudden collapse and disappearance, for which the Snowdrop disease which attacks other species does not seem absolutely responsible. Thus one is glad to find that hybrids between the Crimean Snowdrop and other species are not so liable to die off. Possibly all may not have reason to think so highly of the Snowdrop known as G. plicatus Fraseri as I have, but I speak of plants as I find them, and here it gives much satisfaction and increases freely enough as well. I am always inclined to set this Snowdrop down as a hybrid between plicatus and another species, such as Elwesi, but I have never been able to ascertain its precise origin. Its leaves, however, are quite plicate, and it is apparently very near the ordinary plicatus in its character. It proves much more enduring in this garden than any other form of plicatus, which is very short lived with me.—S. ARNOTT, *Dumfries*.

Crocus chrysanthus cærulescens.—A set of the varieties of Crocus chrysanthus is

very interesting, and forms a delightful feature in a garden in the earliest months of the year. In several shades of yellow, the greater number of the varieties are very attractive in January and February. The most distinct, however, is the one under notice, a small clump of which is charming as this is written. The flowers are white, with the outer segments prettily marked on the exterior with blue feathering. I have it labelled as C. c. albidus, under which name I received it from Messrs. Barr and Son, but it is undoubtedly the variety cærulescens of Maw, and not his albidus, which is pure white with a yellow base. It forms a fine companion to the other forms of chrysanthus, and whether open or closed is appreciated among others.—S. A.

Crocus tommasinianus.—I am pleased to see your appreciative notice of this little Crocus in your report of the meeting of the Royal Horticultural Society, on page 8 of THE GARDEN of February 16. With every word of what you say I entirely agree, even with the remark regarding the variety atro-purpureus, which, as you say, hardly warrants such a strong definition. As a garden flower this beautiful little Crocus ought assuredly to take a high place when better known. It is, though small, stout in its habit, and stands the weather of an early period of the year with a minimum of distress. Even when not open to the sun it is pretty with the peculiarly attractive "graining" shown by its flowers. It is now comparatively cheap, and may, therefore, be planted more freely than many other Crocus species. The two varieties which have been selected for naming are hardly distinct enough for this, and the differences are not such as to commend themselves to most people. C. tommasinianus is a free seeder here, and also increases fairly rapidly by means of offsets. It is also one of the species whose hardiness with me is beyond a shadow of doubt. It is in bloom with me as this is written (February 18), and has been for several days, and this, too, in the open and without any covering or protection of any kind. It seems, however, to be less ready to open with a little sunshine than some of the other early-flowering species.—M. B.

The greenhouse at Kew.—At the present time the greenhouse at Kew is very attractive, a great variety of plants being in full flower, the whole being arranged in a number of most beautiful groups. While forced plants are much in evidence, greenhouse plants proper are not neglected, several very nice groups of hard-wooded plants being staged. Of the latter, Epacris in great variety, Boronias, Acacias, and Chorozemas are prominent, while other Australian subjects such as Eriostemons, Grevilleas, &c., are represented by nice plants. A few of the most striking groups are made up as follows:—Narcissus, Golden Spur, and Veltheimia viridifolia, with an undergrowth of a pretty red flowered form of Primula obconica; seedling forms of Rhododendron sinense, showing a variety of colours intermixed with Prunus japonica fl.-pl.; the graceful stellata form of Primula sinensis, with an undergrowth of Duc Van Thol Tulip, bordered with large flowered purple Crocuses, makes a pretty group, while another very pleasing combination is made by crimson and white forms of Primula sinensis. The same Primula with dot plants of Hippeastrum is pretty, as also is a group of Prunus pseudocerasus, Pyrus floribunda, and Spiraea Van Houttei. Deutzia gracilis, with an undergrowth of scarlet and yellow Tulips is very bright, as also is a large mass of Coleus thyrsoideus. Several large groups of Cinerarias are extremely showy, particularly one composed of blue forms bordered with white Crocuses. Primula kewensis is represented by a number of strong well-flowered plants, while other subjects that help to make the house cheerful are Hyacinths, Lily of the Valley, Cyclamen, Cestrum elegans, Begonias, double white Primulas, Lilacs, Staphyleas, and various other things. On the roof a few blossoms are open of Clanthus puniceus, the large Pea-shaped flowers being very attractive. Altogether a most pleasing effect is produced, which is much appreciated by visitors.

Azalea amœna as a hardy shrub.—

A good deal of what has recently been so justly said in *THE GARDEN* in recommendation of the common *Camellia japonica* as a hardy evergreen shrub may be applied with equal force to this well-known *Azalea*—well known, that is, as a greenhouse plant. It would be difficult to point to an evergreen shrub of its size either more beautiful in flower or more pleasing and distinct in habit and foliage. At Kew, in open and fully exposed positions, it has withstood perfectly all the hardest frosts we have experienced during the last eight or ten years. Even the bitter weather of January and February, 1895, scarcely affected groups of this *Azalea*. Out of doors the plants show several improvements on those cultivated in the greenhouse: the habit is sturdier and the branching more picturesque, the branches growing in somewhat horizontal tiers, and the leaves are smaller and of a more brilliant green. The flowers, too, besides being quite as (or more) abundant are certainly of a brighter and richer rosy purple, losing much of the "blue" tinge that makes them objectionable to some eyes when grown in heat. Specimens that have been grown indoors may be planted out as soon as spring frosts are over, but they require some years to thoroughly acclimatise themselves to outdoor conditions. If it be decided to plant this *Azalea* in quantity it is better to obtain plants that have been grown outside from the beginning. Where a permanently dwarf evergreen shrub is needed, nothing could be better than this. To raise a stock cuttings should be taken in summer as soon as the wood is firm and dibbled in sandy peat. Put in a propagating frame with a mild bottom heat they soon root. The young plants may be planted out in a cold frame for one season, or in a place where protection could be given should the first winter prove a severe one; but after the second summer out of doors no further protection is required.—W. J. BEAN.

Varieties of Mistletoe.—Mr. Burbidge sent several varieties from the Botanical Gardens of Trinity College, Dublin, with the following observations, to a recent meeting of the scientific committee of the Royal Horticultural Society: "I beg to send five varieties of *Viscum album*, all, as I think you will see, slightly different in habit, size of leaf, &c., as also in earliness or time of flowering. You will observe that in all cases but one the male plants have larger leaves than the females. Another point is peculiar about *Viscum* and its time of flowering, viz., the males in all cases flower a week or more earlier, or before the females, as is also the case in *Aucuba japonica* and some other diecious plants. The male *Viscum* has foliage of a brighter green, while the females have leaves of a deeper and more sombre or sap-green colour. Amongst the female or fruiting plants of *Viscum* there is also considerable difference in size, colour, and time of ripening of the berries, as there is also in the time of opening of the male flowers, some individuals being weeks earlier in bloom than are others. The male *Viscum* has often in its young state on young Apple trees, or on the Mountain Ash, enormous leaves, but these become smaller as they begin to flower. The host plant, soil, aspect, &c., may affect the plants, but there is also a considerable range of seminal or inherent variation. Note the beautifully regular dichotomous growth of the branches, all the twigs lying in the same plane, and the half twist in the leaf at the base."

Hybrid Conifers.—Dr. Masters presented a paper on this subject to a recent meeting of the scientific committee of the Royal Horticultural Society, in which he remarked on the rarity of hybrid Conifers in Nature in spite of the profusion of pollen that is formed. This rarity he attributed to the fact that, in the Old World at least, the forests consist mainly of one species. Allusion was then made to the various hybrids in the genus *Pinus* described by Beck, Wettstein, and others, and to the so-called hybrid between *Juniperus nana* and *J. communis*, in reference to which the speaker showed specimens of both forms taken from the same bush. *Biota meldensis*, a supposed hybrid, is only a transitory stage of *Thuja orientalis*. The only two artificially produced hybrids

known to the speaker are one raised by M. Croux between *Abies Pinsapo* and *A. nordmanniana*, and another raised by the late Henry de Vilmorin between *Abies cephalonica* and *A. Pinsapo*. Specimens of these hybrids, by the courtesy of M. Croux and of M. P. de Vilmorin, were shown. M. de Vilmorin's hybrid *Abies* had produced cones, two of which were exhibited, together with those of the parent plants. Last year a single fertile seed was obtained, whose progress will be watched with interest. Details relating to the external features and internal anatomy of these hybrids are given at length in the paper, which will probably be published in the *Journal of the society*. Specimens of the foliage, and of the cones of the parent plants and of the hybrids, were shown in illustration of the speaker's remarks.

Daphne odora at Kew.—The fragrant flowers of this plant make it well worth growing for that reason alone. It is known under the two names *D. indica* and *D. odora*, the latter being the correct one. It is a native of Japan, and has been in cultivation for many years, but really good plants are scarce. The reason why large specimens are not often seen is owing to its difficult cultivation. In many cases this difficulty may be traced to two things, viz., grafting on an unsuitable stock, and keeping the plants in too high a temperature. Although difficult to root from cuttings, it can be done, and better plants are obtained than by grafting. When grafting is resorted to, an evergreen species such as *D. Laureola* or *D. pontica* should be used, not as is often the case the deciduous *D. Mezereum*. The scions may be grafted on to either the root or stem of the stock, the operation being performed in spring. After young plants have been removed from the propagating house they should be grown in a cool, airy house, a temperature such as is usually given to *Camellias* or Himalayan *Rhododendrons* being suitable. Either pot or border culture may be tried, a suitable compost to use being two parts loam to one of peat and one of sand. As it is a very floriferous subject, it is advisable to remove all flower heads as they appear while the plants are young and the foundation of the future specimen is being laid. The flowers are in dense heads from the apices of the branches. They are whitish in colour with a reddish purple reverse. A variety known as *D. o. alba* has pure white flowers. Another variety occasionally met with has variegated leaves and whitish flowers. It is, however, inferior in merit to the type. The flowering period extends from the end of November to the end of March.—W. D.

Certificating old things.—I judge from the observations made on this subject in your notice of the Royal Horticultural Society and its work, that you regard unfavourably the granting of awards to old though most meritorious things by the committees. It is worthy of note this year, in relation to the instructions to the committee, published in the society's arrangements for the year, that the granting of awards to superior products hitherto overlooked or ignored is advised by the council. If it is sometimes asked, "Why honour a thing so long known as good?" it often happens that surprise is expressed that so good a thing never has been so honoured. Certainly such awards may well be regarded as indications as to what to grow as good. But whatever may be the opinion on this matter at least the stock of such good old things must soon be used up, and the grievance, if it be such, soon exhausted.—D.

Acrocliniums.—A gardener said the other day that hardy annuals are going out of fashion, which is probably true to some extent, as of late years subjects of a more permanent and showy character have taken their place. Still, many of them have their uses; they are quick in growth and bloom, and some of them will flourish in spots where scarcely anything else would flower. I have seen the common Virginian Stock in full bloom in small, close gardens, surrounded by high buildings in the most congested parts of the east of London, and where it was regarded as a precious floral visitant, far too valuable to be termed common. One of the most useful of hardy annuals is the Australian *Acroclinium roseum*. There is just a

touch of tenderness in its constitution to justify its being termed half hardy; in southern gardens, where the soil is fairly light, seeds which are of a light and fluffy character can be sown in the open at the end of April and in May with a certainty of getting good results. Those who hesitate to sow in the open can do so earlier in the year in boxes or pots, placing them in a cold frame, and planting out in the open in May. A warm, sunny position suits the *Acroclinium* best, but the ground should be fairly light, and also rich in order to do justice to the plants. Thick sowing in poor soil should be avoided. Some sow in pots in August and September, and keep them protected from frost during winter. In this way the plants will bloom in March and April, and prove very useful for house decoration; it is also an acceptable market subject so treated. *A. roseum*, the type, was first distributed about 1856, when it was regarded as a greenhouse plant, until its requirements were better understood. The white variety appeared about the same time or soon after, and then later came the double forms of each, the *Acroclinium*, like many other flowers, developing the double character under cultivation. The double forms are not sterile, as they produce seeds, but not more than 50 per cent. of them can be expected to produce plants which will show the double character. The *Acroclinium* comes into the somewhat limited group of Everlastings. In order to preserve the blossoms for future use the flowers should be cut just after they begin to expand, and if with long stems, the stems should be tied together, and the bunch hung with the flower heads downwards in a dry, cool place until required for use; by this treatment the flower stems stiffen, and they can then be utilised in an erect position in decorations.—R. DEAN.

Magnolia fuscata.—This small-flowered *Magnolia*, although insignificant in appearance, should find a place in all large conservatories for the sake of its delightful perfume, at once so powerful and pleasing. It is doubtful if any flower has a stronger scent, for only one or two blooms can be detected a dozen yards from the house with the sashes open and the wind in the right direction. It is of slow growth in pots, but moves away at a good pace when it can be planted in a border. I noticed lately that an old plant on a back wall we had to cut back last spring had made over 2 feet of growth since that time. The variety is a native of China, and seems to have been introduced about 1780.—E. BURRELL.

Apple Claygate Pearmain.—I was very pleased to see this good variety given an award of merit recently by the fruit committee of the Royal Horticultural Society. It may appear somewhat strange to those who have grown this variety for many years that its merits have not been noticed earlier. It is a local Apple, as it originated at Claygate, and in that district few fruits are superior to it in its season for the dessert from Christmas to March; indeed, with cool storage, and allowing the fruits to remain as late on the trees as possible, I have kept fruits well into April. In flavour the Claygate resembles the Ribston Pippin, and will thrive where the Ribston fails; it is a great favourite in the west and southern parts of the country, and the fruits exhibited were certainly among the best staged as regards flavour, which was excellent. This cannot be called a handsome fruit, its dull green and yellow colour is not striking, but the tree grows well, is hardy, and bears abundantly on the paradise. It is not a strong grower, and should find a place in all gardens.—G. WYTHES.

Olearia Haasti.—It is now about twenty years since this New Zealand shrub appeared in cultivation in this country. It appears to have been first introduced by Messrs. Veitch, of Exeter, and was originally grown in the nursery there as *Eurybia parviflora*. Since then it has become a fairly well known plant, but even now is not planted so abundantly as it deserves to be. In the south of England it may be termed perfectly hardy, for although it was killed back to the ground in the early part of 1895 it sprang up freely during the following summer. In any case it suffered no worse than did our native Gorse and

Broom during the same period. It is an evergreen of comparatively dwarf and compact growth. In very many gardens it is the evergreens that show least variety and interest. The most popular evergreen shrubs at present used—the common and Portugal Laurels, *Rhododendron ponticum*, and such like—are often either too large for the positions they have to occupy or they have to be cut back so closely as to lose all their native grace and become mere meaningless banks of greenery. For replacing such shrubs, to some extent *Olearia Haastii* is to be recommended. A slow-growing plant of neat, close habit, it has to be many years old before it gets too tall for any position, even if never pruned at all. The leaves are about the same size and shape as those of the Myrtle, but they are of a dull greyish green above and covered beneath with a white or pale brownish wool. It flowers in late summer and early autumn, bearing its composite heads of flowers in terminal corymbs 1½ inches to 3 inches across. The ray florets are about five in number and white. This shrub, which belongs to the same natural order as the Daisy and Sunflower, is a native of the Middle Island, New Zealand, at altitudes of 4,000 feet to 4,500 feet. It is named in honour of Mr. Julius Haast.—W. J. BEAN.

Iris rosenbachiana.—It must be gratifying to Sir Michael Foster, M.P., who has done so much to advance the cultivation of the bulbous Irises, to see the more frequent references to these lovely flowers in the horticultural press. His book on these plants, issued by the Royal Horticultural Society, is of the highest value and interest to those who care for the flowers of which he speaks so well. A fresh perusal of this publication makes one appreciate, even more than before, the work done by its eminent author in his garden. Among the other bulbous Irises of which he tells, none are more worthy of the care they need than the subject of these notes. It may not possess the precise charms of some of the other species, but its best forms—for it is very variable—are equal to any in their exquisite combinations of colours. I observe that Sir M. Foster dwells at justifiable length upon this beauty of colouring, and that he says that he could, he thinks, by selection easily make a list of “something like a hundred named varieties.” This very colour variation makes the plant more interesting, and one might plant it more largely, with the sure prospect of being recompensed by the variety as well as the beauty of the resulting flowers. Not that all the flowers are charming, for to speak frankly there are some whose colouring does not appeal to some tastes. Yet this is compensated for by the exceeding beauty of other plants. It is impossible to give an idea of these varieties with their combination of crimson, of purple, of white, of gold, and these in varied shades. One needs to see the plants for oneself to appreciate properly the difficulty—nay, the impossibility—of depicting them with the pen. *Iris rosenbachiana* is of exceedingly dwarf habit, the flowers being sessile in the centre of the tuft of leaves. Although the size of the flowers varies considerably, all are large for the height of the plant, which is only a few inches above the soil. As a plant for the rock garden it has no superior in its genus, and it draws much admiration from all who see it in bloom at its season of March with us in the north—late February in more southern gardens. Later though it is than some other bulbous Irises, it is yet too early for its own sake in our gardens. This arises from the liability of its leaves to injury from late frosts, and the consequent weakening and destruction of the bulbs. Its thick, rather fleshy leaves appear to suffer more from these late frosts than many other Irises that I have grown, except, perhaps, *I. palestina*. Both are hardy, so far as regards their bulbs, but the injury sustained by their leaves is more than they can stand. For several years I had perfect confidence in its ability to withstand the trials of our springs in my garden, but a succession of late frosts taught one the bitter and unwelcome lesson that it is not to be relied upon. It is interesting to find that Sir M. Foster's experiences in his garden far to the south of this are practically the same. So, also, one has had much the same experience as regards soil and position. A light,

rather peaty soil suits *I. rosenbachiana* with me. With a sunny, sheltered position and some covering at night when in bloom and until the leaves ripen or all danger from frost is past, this exquisite Iris will give much gratification. One may also agree with a remark made that it is not one which should be removed frequently. Should it be doing well, the maxim to “leave well alone” is worth following.—S. ARNOTT.

THE FERN GARDEN.

FERN HUNTING.

IN view of the immense number of varietal forms which our British species have assumed, and the fact that a very large proportion, numbering among them many of the finest, have originated in a wild state and been found by persons who have devoted their leisure to close inspection of the Ferns they have come across, or in rarer cases, altogether accidentally, we may well devote a short chapter to the consideration of this singular capacity for variation and the circumstances under which such sports are found. Judging by the results of Fern hunting in the British Isles as contrasted with the relative paucity of foreign finds, it would *prima facie* appear that there must be a special something in the soil, climate, or general environment which leads to greater sportiveness, but as against this theory it must be borne in mind that in no other country has there sprung up a special taste for variety hunting, which, as here, has led to a considerable number of both sexes assiduously searching for new ones after having been inspired by distinct finds with that faith which is the best encouragement to perseverance. On the average many thousands of normal Ferns must pass beneath the scrutiny of the hunter or huntress (for ladies have been particularly fortunate) before a distinct sport presents itself, and obviously the first step necessary for a beginner is to acquire a thorough acquaintance with the normal forms, so that any departure is instantly noted and followed up by closer inspection. It very frequently happens that in a dense clump of rank-growing normals the merest tip of a frond or fronds indicates the presence therein of a variety, and it may even occur that one species may assume a varietal form closely resembling a different species of another shape and thus baffle the eye. Thus we have found two forms of *Athyrium* (Lady Fern), one which we named *A. F.-f. oreopteroides*, so closely did it imitate the mountain *Lastrea* (*L. oreopteris* or *montana*) which grew in conjunction, and the other we took at a first glance for *Lastrea dilatata*, the fronds being quite triangular (*A. F.-f. deltoideum*), especially as *L. dilatata* was abundant in the same spot. The texture alone determined the second look, which discriminated them as marked varieties. Both these would infallibly have been overlooked had not experience educated the eye to relatively minute differences.

Another point with reference to the greater number of British finds is that in many countries it is not so easy to hunt as here; the poking and prying and intrusion into the out-of-the-way nooks and corners which are liable to harbour good things, are all, it may be, attended with danger by harbouring bad ones, and we ourselves have still a vivid recollection of a fine rattlesnake in Mexico which turned up just beneath a lovely patch of *Nothochlenas* and *Cheilanthes*. Even here (in Ireland) we once let ourselves drop down the face of a rock to inspect a mass of *Hymenophyllum*, only to find a wasp's nest as big as one's head within six inches of our nose. Fortunately, by standing perfectly still, the disturbed swarm, after a chorus of buzzing, obviously took us for a fallen rock and permitted us to glide gradually away unmolested. The main point, however, is that the explorer abroad is usually a general botanist on the look-out only for new species, and a general glance satisfying him as to the species, he passes on and does not pursue the individual investigation necessary to the variety

hunter pure and simple. When, however, a man with an eye for varieties goes abroad, as did the late Mr. S. Brown, to the Azores, very fine varieties crop up, as for example *Woodwardia radicans cristata*, two grand crested varieties of *L. dilatata* and *Asp. Hemionitis multifidum* and *cristatum*, a form of which we ourselves also found recently when there, plus a finely crested *Pteris aquilina*. In the United States Ferns are so popular that a special “Fern Bulletin” is issued quarterly and a Fern chapter is instituted for the encouragement of research. Here, again, quite recently varieties have been found, and we are the happy possessor of *Phegopteris hexagonoptera truncata*, like a huge Beech Fern, with all tips squared and thorned, and *Dennstaedtia punctilobula cristata*, prettily tasselled, sent us by Mr. W. R. Maxon of the Smithsonian Institute, while fronds of a nicely crested *Athyrium* were sent us not long since by a lady there. These facts point to our mind to the conclusion that wherever Ferns are plentiful it only needs proper hunting to find varieties, and the keener and more persistent the hunter the more there will be found. Mr. J. Moly, for instance, resident in Dorset, discovered in the course of years no less than 600 distinct varieties, numbering among them many of our finest, mainly within the district, and Dr. Wills, his neighbour at Chard, found a very large number in addition. We cite these facts at length because they constitute an encouragement to anyone enjoying opportunities of search in ferny districts. In the large majority of instances the “finds” are either solitary plants or clumps originating presumably from an originally single sport, though now and again, as might be expected, seedlings have established themselves near by, so that further search is rewarded by further specimens. Very rarely colonies, as it were, are found as in our own case of *Asp. ad. nigrum caudatum*, where many yards of a stone dyke contained no other form but hundreds of this. A most remarkable case was recently brought before us, where, in Cornwall, three distinct finds of three distinct species were found in one clump in a wood, a tasselled Male Fern, a forky Shield Fern, and a splendid bipinnate form of the common Polypody—a rare case indeed and probably unique. The

EQUIPMENT OF THE FERN HUNTER is of the simplest; some carry a tin vasculum, which is so far good that it protects the fronds from injury; it, however, has the disadvantage when one is clambering over the rough and precipitous ground so dear to Ferns of swinging round and getting in the way, and personally we abjure anything but a strong trowel, a stout hooked stick, a cloth bag like a fish basket, which can be rolled up, a pocketful of old newspapers, and some string. A “find” discovered, we dig it up carefully by the roots, separate it from any associated common ones, wrap some moss or old fronds round the roots, envelop it in a sheet of paper, slip it into the bag, and sling this behind us by a string over our shoulders. At the first opportunity we dip the roots in water, and when we reach our temporary haven at the end of the day we instal it in a box with a good supply of fresh wet moss, and place this in a cool shady place. The Fern is then good for a fortnight or more, until finally installed at home. Puzzles, of course, crop up in such expeditions; “finds” sometimes occur in awkward places, are seen at the top of a high wall far out of reach, or in hedges where the tree roots almost require dynamite to liberate the Fern, or, as in one of our experiences, it may be so huge as to need two men and a horse and cart for dislodgment and conveyance, or, finally, as in the case of that beautiful Fern *P. v. Prestonii*, it may be seated so deep in a rock chink that the finder had to roll the rock itself across country and actually grow the Fern out of its hermitage at home. We, however, only know of one case which baffled the enthusiast, a charming Lady Fern, growing in a deep drain, in the mouth of which, at the base of a massive stone dyke, the merest tips of the fronds had reached the light with the roots under the dyke and on the inaccessible other side of it. We nearly suffered such a catastrophe ourselves once,

finding a beautifully crested *L. dilatata* in a close preserve bristling with threats of prosecution of Fern robbers. Here, however, the Fern itself saved the situation by bearing ripe spores, and thus, though left practically intact, eventually decked our fernery with true progeny.

However, we have now said enough, we think, to show that Fern hunting is not without its adventures as well as its rewards, and with the final remark that the occurrence of varieties is too wayward and capricious to permit as yet any definite information to be given as regards the likeliest places, we will simply conclude by recommending

little plants. They soon spread over the entire top and now form a solid and compact convex coping which protects it from the weather, and along which the curious little bunches of flowers rise at intervals, each on its own fleshy stalk.

I well remember how my old friend Miss Marianne North, whose memory can never fade from the hearts of those who knew her, and who was always pleased with any new use for Nature's treasures, was delighted with the living copings, and—not having herself a supply handy—asked me to send her a hamper of House-leeks. This I did at our next interchange of plants, for in the

stones, so that without cement or mortar they withstand the trying tests of time and tempest.

For the benefit of any who may wish to try my system I may add that the method I have found best by experience is to mix cow manure and clay in nearly equal proportions, moistened sufficiently for use, and to lay this on thickly over the whole surface of the top of the wall in a more or less convex form—that is, from 2 inches to 3 inches thick in the middle, rounded off to less than 1 inch at each edge. While this is still moist and soft, the rosettes of *Sempervivum* should be pressed into the prepared clay in a straight line along the middle of the wall, and it will be found that in a very few years they have so spread as to cover the whole and leave no space for noxious weeds to find a foothold.

Of course the process can be hastened by making a triple line of plants, or covering the whole width with individual plants, if an unlimited supply is at hand, but where this is not so the single line will soon spread and answer the purpose for which it is intended.

Parkstone, Dorset.

H. R. D.

ASPARAGUS SPRENGERI VARIEGATUS.

ASPARAGUS SPRENGERI is one of the most ornamental of its family, and the variety *variegatus* is welcome too. This is far less known than the type, and the illustration of it should interest our readers. Grown in pots or in suspended baskets both these *Asparaguses* are very ornamental, the luxuriant sprays hanging over gracefully. *A. Sprengeri* is a native of Natal. It was introduced in 1890 by Messrs. Damman and Co., of San Giovanni à Teduccio, near Naples, through their collector, Herr Sprenger, after whom the plant was named by the late Dr. Von Regel, director of the St. Petersburg Botanic Gardens. In habit it approaches *A. sarmentosus* and *A. fulcatus*, but has flatter leaves or rather phyllodes. The small white flowers are produced in great profusion and emit a pleasant perfume, and are followed by bright coloured berries.

BOOKS.

Gardens Old and New.*—It was well known how rich was our land in country houses of good types, both large and small, but until these pictures of house and garden were brought together it was not possible to judge of the degree of prevalence of certain styles. In this beautiful folio we have it all clearly displayed. The castle, embattled and closely moated; the moated but otherwise almost unfortified manor, whose garden has grown through the peaceful centuries beyond the protecting fosse; and the many homelike houses of Tudor times, showing the use of Oak timbering as structure and ornament in one; and also the endurance of good English Oak as a building material—for much of this timber, except for a thin skin of surface decay, is as sound to-day as when it was erected three centuries and more ago. Then the great Palladian buildings, with their attendant gardens of Italian design, showing the gardens ever widening, as a reaction from the restrictions of the older days when everything had need to be enclosed for defence. All this one can read from these pictures, and much besides of varied interest and of endless detail of garden practice. The large amount of simple topiary work in Yew and Box still existing in the greater number of the old gardens shows how the practice (a heritage from ancient Rome, transmitted through the garden designs of Italy and France) prevailed through all the styles, whether Tudor, Jacobean-

* "Gardens Old and New." *Country Life Illustrated*, 20, Tavistock Street, Covent Garden, and George Newnes, London, 1901. Price £2 2s.



ASPARAGUS SPRENGERI VARIEGATUS.

our readers to try their hand the first opportunity, and expressing the hope that success may inoculate them with that lasting and incurable disease known as the "Fern fever."

CHAS. T. DRURY, F.L.S., V.M.H.

MISCELLANEOUS.

LIVING WALL COPINGS.

MANY walls, whether built for purposes of boundary or as retaining walls to hold up the ground behind them, as in terraces, would be much improved in appearance and sometimes in durability by the use of Nature's own living copings.

Of these nothing that I have ever tried is nearly so effective as the common House-leek, which costs nothing, is easily procurable, propagates itself freely, is established with the minimum of trouble, and, lastly, never requires renewal, as it lasts practically for years.

When in a few years it has completely covered the top of a wall from edge to edge with its little rosettes closely packed together, the effect is very ornamental as well as curious, and I am at a loss to understand why the ingenuity of gardeners has generally failed to make this use of it.

I have myself a dwarf retaining wall, about 100 feet long, of dark brown ironstone, on which many years ago I planted a line of these fascinating

spirit of a true gardener she found as much pleasure in giving away specimens from her Himalayan and other collections as in receiving others which she did not possess.

In the case of dwarf retaining walls, where the earth behind is level with the top of them, there are of course many plants which form a very pretty and ornamental covering or coping, giving variety in colour and form both by their foliage and flowers, and relieving the bare look of the straight and level top of the wall. It is strange that they are so little used for this purpose, especially in terraced gardens on hillsides.

For this use several of the small *Campanulas*, *Saxifrages*, yellow *Alyssum*, *Phlox setacea*, *Sedums*, *Acana*, *Thymus Serpyllum*, *Arenaria montana*, *Lithospermum prostratum*, *Aubrietia* (especially *Hendersoni* and *Leichtlini*), and the smaller *Vincas* are particularly useful, and when intermixed and planted in the soil behind the wall they soon spread over the top, and in some cases hang over the face and thus relieve the eye with the variety of their blue, purple, pink, yellow, and white flowers.

In the case of dry walls built of rough stone many of these may also be planted in the interstices of the face of the wall, and clothe it almost as effectually as Ivy, without destroying any adjacent flower border with their roots, as is the pernicious habit of that greedy plant. But as a coping for a dry wall of loose stones, none of these has the economic value of the common House-leek, which binds together the top layer of

French, Palladian, or Dutch. The book is a remarkable example of the success that can be obtained by the most skilful reproduction of a large series of photographs, most of them by one who is a true artist. No better gift book could well be imagined.

THE FRUIT GARDEN.

THE BEURRE BOSCH PEAR IN AMERICA.

ON page 307 of the last volume of THE GARDEN, in the article on "Stewing Pears," is the following reference to our celebrated Bosc Pear, which I cannot let pass without protest: "Beurre Bosc, a common market Pear, the fruits being long, russet, and of good size, but of very poor quality when ripe." This estimate of quality is so greatly at variance with every record we have in America that I am wholly unable to account for its veracity. We regard the Bosc as one of our finest Pears of its season, and this is the very first word of dissent that has ever come to my notice. All pomological authorities agree upon the high character of this grand Pear. Downing gives it "unqualified praise." "Always perfect, melting, buttery, rich, and delicious," he says. The American Pomological Society rates it among the best, and showers it with stars all throughout the American States. Thus when I find it listed among "stewing Pears," as this writer has it, I am utterly puzzled to frame any details that could justly lead to such a conclusion. Could he have mistaken the fruit? His brief description of its appearance would seem to dispel that notion. Under what conditions were his specimens grown? And by what standard does he judge of quality? Questions like these seem to shower around me in menacing rapacity as I read his statement.

Why, in this country we cannot get enough of the Bosc to stew, and I do not believe anybody has ever tried to stew it. They usually cost from 5 cents to 10 cents apiece on the fruit stands, and would thus make a pretty expensive stew at that price. Perhaps, indeed, the Bosc is a very poor Pear *when stewed*. If this is what the writer means, my quarrel is ended, because I have no knowledge of that condition. But to eat as Nature hands it to us, give me the Bosc every time in its season.

I present herewith a true outline of an average specimen grown in my garden, thinking it may be of interest to readers of THE GARDEN.

The Bosc is a Belgian Pear, having originated with Dr. Van Mons, that noted pomologist of Belgium, who was, perhaps, the greatest authority on Pears known to history. It was produced in 1807, but was not disseminated until some years later. The great fruit man is said to have regarded it as one of his choicest and most valuable productions. The type is distinct, and unlike others of the Pear family. In shape and size it is without a rival. What an ideal pyriform, and how handsome it is. This form is so marked and so firmly fixed that any deviation in a single specimen must be regarded as a deformity and the result of unnatural conditions. It is also uniformly large, smooth, and regular. The skin is thickly overlaid with russet, and there is no hint of deception, no appeal to the eye by glowing colour to deceive the palate, even when fruit is thoroughly ripe and ready for eating. In fact, there is not a single deceptive

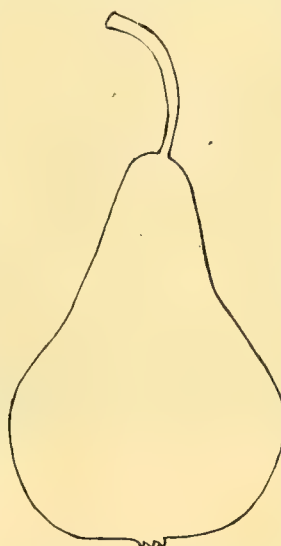
fibre in the Bosc Pear. If this be against it in the public markets where "all is gold that glitters and things are not what they seem," so much the worse for the market and the deluded consumers.

THE GARDEN writer speaks of it as a "common market Pear." If he means that the English markets are well supplied with the variety it is more than we can say here. The fact is, it is always scarce in our markets, for, strange as it may seem, most of our large growers are either unfamiliar with it or not fully impressed with its true value; but it will always be found in the garden of the intelligent amateur, who rarely spares any for the market. The tree is healthy and productive, though not an early bearer, which doubtless accounts in some measure for its scarcity in the average orchard here, where early crops and quick returns are allowed to overshadow every other feature to the steady deterioration of markets and taste. The wood is strong, dark-coloured, and handsome, and the habit of the tree is excellent. It bears regularly, and the fruit is uniformly large, smooth, and free from knots or blemish of any kind; nor is it subject to scab, crack, or mildew. Upon the Quince stock it requires double working for best results.

It will be seen that compared with Downing's typical outline my fruit is somewhat broader at the base and more like the shape given by Thomas, which is, I think, the more accurate outline as we now have it. The flesh is firm, rich, melting, slightly perfumed, and delicious, being devoid of any strong peculiarity which requires an educated palate to appreciate. It is also a good keeper.

Aside from this startling estimate of the Bosc Pear, the article alluded to contains many suggestions of value and importance on the subject of stewing Pears. There does seem to be a transformation in texture and flavour gained by this culinary process which, though not easily explained, enables us to utilise fruit that would otherwise be nearly worthless. In fact, certain varieties named can scarcely be eaten at all in the uncooked state—Vicar of Winkfield, for instance; smooth and fine as it grows, I have never found it fit to eat raw though ripened under the best conditions. And yet it seems to me that fruit wholly immature cannot well be entirely wholesome in any form; it should be at least nearly or quite grown, and the use of matured fruit before the softening or mellowing process has begun, will, I think, give us the best results. But, of course, Dame Nature knows best how to serve her luscious fruits, and the Pear, as it comes from the tree ripened and mellowed while waiting our good pleasure, is no exception to the rule. We can well trust her to complete her work.

The Anjou is another autumn Pear that is regarded as of great value in this country, and



OUTLINE OF BEURRE BOSCH PEAR, TO SHOW FORM. REDUCED ABOUT ONE-HALF.

I was glad to see it so highly commended by your correspondent, Mr. Coomber, on page 427. While it is grown more largely than the Bosc, and is coming into market in fair supply of late years, it is still unknown to many gardens here. Like the Bosc, it is not endowed with brilliant exterior, and thus fails to catch the popular eye; but to the initiated, its smooth and chubby green skin speaks modestly and eloquently of the sprightly and luscious interior. Our lamented Marshall P. Wilder, founder and president of our American Pomological Society, said, if compelled to select any single variety which he preferred to all other Pears it would be the Anjou. It is filled with juice of a vinous, sprightly flavour, and agreeably aromatic. "Large, regularly ovate, greenish yellow, with occasional patches of russet," that fairly describes it in this country as well. The stem is very short, thick, and fleshy, set in a moderate cavity; calyx small, open and stiff in a contracted basin. It is especially valuable for its long-keeping qualities, and a most luscious and refreshing fruit under any conditions. The tree is vigorous and reliable and very productive. It is an upright grower, with thick shoots, and it is easily distinguished from other sorts by its light green bark and general habit—a French Pear, I think, and one of general merit, deserving wide cultivation. W. HENDRICKS.

Kingston, New York, U.S.A.

THE FLOWER GARDEN.

FLOWERS FOR POOR BORDERS.

BORDERS are occasionally found in old-world gardens that were planted years ago with deciduous and evergreen shrubs and trees of small growth that at the present time monopolise almost all the available space. They are often somewhat rare and (when they have been judiciously treated) excellent specimens, in which case any removals are decidedly objected to; at the same time a suggestion is often made that what space is available should be made bright with flowers. This is by no means the easy matter it may appear to those who make such suggestions, for shrubs long established are gross feeders, and the ground in their vicinity is naturally very poor. I have a border of this character some 60 yards by 4 yards partially filled with specimens of *Chionanthus virginicus*, *Asimina triloba*, deciduous *Magnolias*, with rare *Hollies*, *Buxus balearica*, *Candleberry Myrtles*, &c., with the largest *Pterocarya caucasica* in England some 20 yards away, a combination that draws every ounce of goodness from the border, for of all hungry and persistent feeders the *Pterocarya* is easily first. I will name a few flowers that will do fairly well under these conditions, and if any reader of THE GARDEN can suggest others I shall be much obliged. *Antirrhinums* are about the best, and varieties of vigorous habit—those which under generous treatment will throw their spikes to a considerable height—should be selected. *Sisyrinchium striatum* is a capital plant, and it shows to great advantage against clumps of dark-flowered *Antirrhinum*. *Anthemis tinctoria* grows and flowers well at about half the height it attains in good soil. Clumps of *Montbretia* associated with occasional plants of *Gypsophylla* are also an interesting feature. Some of the *Linarias*, as *alpina*, *dalmatica*, *repens*, and *Linum narbonense* also do very fairly.

Charmont.

E. BURRELL.

CACTUS DAHLIAS.

THE last season was a good one for Cactus Dahlias. My plants produced an enormous quantity of flowers, being covered with bloom until well into

November. Among new varieties, Mrs. J. J. Crowe stands pre-eminent. The flowers are delicate sulphur yellow, and of the true Cactus shape, almost resembling a chrysanthemum; it also has the merit of being free-flowering and of excellent habit. Innovation is the newest of the bicoloured Cactus, following in the wake of Arachne and Clown, and, although smaller than either of these, is a pretty and suitable little flower for vase decoration, and attractive in the bunch. What a pity Arachne hangs its head so badly, otherwise no more distinct Cactus Dahlia exists, either for colouring or for shape. It has a little trick of sporting from its normal colours of red and white to a pure red, but this does not detract greatly from its value in my estimation.

The bicoloured Cactus varieties are slow in making their appearance, but one hopes for beautiful things in this way, and there is no reason why we should not in the near future see as exquisite combinations of colour in the Cactus section as are to be found in the old fancy Dahlias.

Green's White, introduced last year, is undoubtedly the best white Cactus up to date, although it is not such an enormous advance on the useful Mrs. Peart as one might expect. Its principal merit is its free-flowering habit and long season of bloom (it opened with me before any other Dahlia). A valuable point also about it is the stiff nature of the flower-stalks. Of Red Rover I cannot speak too highly; it is a flower of noble dimensions, brilliant colouring, and perfect shape, and it has a great future as a border plant, being covered with huge flowers well above the foliage, and showing conspicuously in the distance. Of older border varieties Magnificent and Standard Bearer should both be largely used; the colours are good, and the plants simply a mass of well-displayed blossom.

Of the popular dark-flowered section I find Ebony to be the most useful when well grown. Uncle Tom is a flower of splendid shape and colour, but not so free or so large as Ebony.

Of other Cactus Dahlias favourites of mine are Charles Woodbridge (purple-red), Mary Service (heliotrope-buff), Britannia (creamy buff, of unique shape), Bertha Mawley (bright cherry red—what a pity we cannot get this colour in the newer shapes), and I may mention that a bloom of the Clown (brick red and white) is always attractive in a mixed bunch. What one particularly likes about the Cactus Dahlia is that improved varieties are always being added. Certain other flowers have arrived at a pitch of perfection which it seems florists despair of improving upon, but every season shows a distinct advance in Cactus Dahlias. A friend said one day that he preferred the old double show Dahlia to the Cactus varieties, because he liked old-fashioned flowers. What a pity that such false sentiment should exist. To the well-trained eye surely there can be no comparison between the old globular forms and the flowers of the newer Cactus Dahlia.

Rye. F. H. E.

THE AQUILEGIA FAMILY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I am desirous of forming a complete collection of every known species and variety of Aquilegia. With this end in view, I have obtained from various sources the following seeds:

Aquilegia alpina	Aquilegia caryophylloides,
" " superba	" flore-pleno
" " atrocerulea	" Durandi, flore-pleno
" " artica - formosa	" glandulosa
" " bicolor flore-pleno	" " vera
" " = sibirica var.	" Munstead White
" " bicolor flore-pleno	" = vulgaris var.
" " rubra	" nivea grandiflora
" " californica - truncata	" = vulgaris
" " hybrida	" spectabilis
" " canadensis	" Stuarti
" " cornuta	" Skinneri
" " lutea	" Veitch's hybrids
" " chrysantha	" servaneana, fol. variegata
" " grandiflora alba	

and various mixed packets of hybrids from Mr. Robertson, Aberdeen, Mr. Bath, of Wisbech, &c. Will you kindly give me a full description of each

of the above, describing habit, colour of flowers, &c., and also give me a list of all the known species and varieties of Aquilegias not named in the above list, with a description, if possible, and where I shall be able to obtain seeds or plants? Is there any book dealing specially with Aquilegias?

W. C. G. LUDFORD.

THE Columbine family, which is found scattered over the whole of the north temperate zone, is an important one, both as regards the number of species comprised in it and the charming growth of the individual. They form one of the most attractive features of the garden during the late spring and summer months, having quite a distinct character of their own. According to the Kew Index the genus consists of some sixty-five species, many of which are very rare or have not yet been introduced to cultivation in this country. In the following descriptive list the species are arranged according to the geographical distribution of the family.

EUROPEAN AQUILEGIAS

A. alpina.—The Alpine Columbine is one of the most beautiful of the whole genus. The true plant is not common in gardens, as forms of *A.*

vulgaris often do duty for it. It is a slender growing perennial, with stems about 1 foot high, bearing two to three flowers, which are usually of a bright lilac-blue or rarely white. The sepals are $1\frac{1}{2}$ inches long, and more than half as broad. The petals are half as long as the sepals, and often tipped with white. The short, stout spurs are more or less incurved, and about as long as the lamina of the petal. A native of the mountains of Central Europe.

A. Amalie.—Near *A. vulgaris*, but less robust, with slender, pubescent stems; sepals whitish or lilac tinted, half an inch long; petals paler; spurs shorter than lamina of petal, stout, and a little thickened at the tip. Native of the Alpine region of the Thessalian Olympus.

A. Bertoloni.—Slender, with pubescent stems 1 foot high, two to three flowered; flowers bright blue; very close to *A. pyrenaica*, but the sepals, which are oblong and 1 inch in length, are not so broad and more acute than in the above species. *A. Reuteri* and *A. pyrenaica* var. *decipiens* are synonyms of this plant. Native of the Alpine region of Eastern France and Northern Italy.

A. einseleana (*A. Banhini*).—Of slender habit, 6 inches to 12 inches high, branching; flowers several, borne on long peduncles; sepals bright lilac, half an inch long; petals as long as sepals, pale blue or white; spur slender, nearly straight, not swollen at the tip. On limestone in Switzerland and Central Europe.

A. Kitaheli.—A distinct plant, intermediate in character, between *A. Bertoloni* and *A. einseleana*. Native of Austria.

A. Othonis.—Very close to *A. Amalie*; sepals



A COLONY OF AQUILEGIA CERULEA.

and petals blue, with a green margin. Native of the mountains of Peloponnesus.

A. pyrenaica.—The Pyrenean Columbine is dwarf, with a slender pubescent stem, varying from a few inches to 1 foot in height; flowers one to three on a stem; sepals bright blue, ovate, 1 inch long; petals half as long as sepals, rounded at the top; spur slender, nearly straight, three-quarters of an inch long, slightly knobbed at the tip. Native of the Pyrenees to the exclusion of true *A. alpina*.

A. thalictrifolia.—Slender, with very distinct foliage, reminding one of a *Thalictrum*; sepals oblong, bright lilac-blue, half an inch long; petals about as long as the sepals, rounded at the top; very like *A. einseleana* in flower, but the foliage is quite distinct. Native of the calcareous rocks of the Tyrol.

A. viscosa.—Slender pubescent stem, 1 foot high, three to five flowered; sepals oblong, blue-lilac; petals as long as sepals; spur short and stout, incurved with a knob at the end; very near *vulgaris*, to which it has been referred by some authorities. Native of south-eastern France.

A. vulgaris.—The common Columbine varies from $1\frac{1}{2}$ feet to 2 feet in height, the many-flowered stems being finely pubescent towards the top of the plant. The colour of the flowers is generally bright lilac or light or dark purple, sometimes white; sepals ovate, 1 inch long, half as broad; petals nearly as long as sepals, rounded at the apex; spur stout, much incurved, with a knob at the end. Forms of this species occur throughout Europe, also extending into Siberia. The following are some of the varieties: *Var. atrata* (*A. nigri-*

cans.—A form with small dark purple flowers. Central Europe. *Var. Bernarui*.—Tall, three to seven flowered; slender spur of petal not more than half as long as lamina. Corsica. *Var. nivea*.—A form with white flowers. *Var. paraplesia*.—With large dark violet flowers. Transylvanian Alps. *Var. platysepalis*.—The sepals of this form are shorter and more obtuse than in the type. *Var. Sternbergi* (A. haenkeana).—A dwarf alpine form with small leaf divisions and bright lilac-purple flowers, larger than in the type. Central Europe. *Var. subalpina*.—With the foliage of the type and flowers of Sternbergi. Pyrenees and mountains of Central France. *Var. transilvanica*.—Similar to A. Sternbergi, except that the whole plant is glabrous. Flowers bright blue. Transylvanian Alps.

(To be continued.)

Heracleum mantegazzianum.

In the year 1892 two botanists living at Florence—Mr. N. Levier, a doctor of medicine, of Swiss birth, and Mr. Sommer, a French amateur—explored the Central Caucasus, traversing the range from Koutais to Batalpachinsk. The aim of their travels was a botanical exploration, and it resulted in the discovery of a good number of species new to science. Several of these were of horticultural interest, and we have grown them in the Jardin Alpin d'Acclimatation, viz. :—

Androsace raddleana	Potentilla foliosa
Anemone alpina var. aurea	" Levieri
Anthem. macroglossa	" Sommeri
Artemisia sericea	" svanetica
Astragalus Sommeri	Ranunculus abchasicus
Carlina longicaulis	" ginekobolus
Chamemelon rupestre	" Sommeri
Corydalis glareosa	Rosa svanetica
Echinops raddeanus	Saxifraga caucasica
Geum latifolium	" coreifolia
Gnaphalium caucasicum	" purpurascens
Heracleum Freyvi	" scleropoda
" mantegazzianum	Scabiosa correvoniana
" caucasicum	Senecio conipes
" glabratum	" platyphyllodes
" pachyrrhizum	" primulaefolius
Hypericum Sommeri	Silene kabanensis
Jurinea pumila	" subuniiflora
Gnaphalodes Lofjke	Vincetoxicum scandens, &c.
Potentilla adjarica	

A considerable number of species have not been determined or described, as they were collected in the form of seed only. The seeds have been sown in the Jardin Alpin d'Acclimatation at Geneva, and later will be cultivated in the garden of La Linnæa at Bourg St. Pierre, where there is a space of rock garden

specially reserved for the plants of the Caucasus. Many of them have done very well, but none has produced such an effect as the soon-to-be-renowned *Heracleum mantegazzianum* (Sommer and Levier), on account of its gigantic proportions and its monumental aspect. This plant in our Geneva garden, or, rather, in its auxiliary department at Lancy (for it is too large to find space at Plainpalais), has given superb results. It is certainly the largest species of its genus, and one of the finest plants for an isolated position. Our plants are grown from seed collected in the Caucasus on the banks of the Sekon, in Abkhasia. They were sown in the spring of 1893 and did not vegetate till 1894, but already in 1896 we obtained in our garden at Lancy a specimen whose stem was 8 feet high and whose umbel had a diameter of 4 feet, the leaves being 3 feet long from the base of the petiole to the tip of the leaf.

According to Dr. Levier, to whom we sent a portion of the umbel, the plant must have borne something like 10,000 flowers. It supplied us with the seed which we were able to distribute to the trade and to amateurs, and also to its discoverers, Messrs. Levier and Sommer, who grew it at Florence and at Bornio. In the latter place it assumed an



HERACLEUM MANTEGAZZIANUM IN A PRIVATE GARDEN IN ITALY.

altered character, for, instead of having very large leaves and a tall stem bearing a single umbel, the stem was shorter and divided from the base with a much greater number of umbels.

The description of this remarkable plant has appeared in the *Nuove Giornale Botanico Italiano*, vol. ii., April, 1895, where it is stated to be the giant of an already very large race, and also one of the handsomest of its genus. Its cultivation is an easy matter. It likes deep, rich soil that is cool and damp. It is only in these conditions that it will attain its greatest size, but even in those that are less favourable it will do fairly well. We have observed that the finest plants are those whose roots have not been in any way cut or mutilated, and especially whose tap-root is uninjured. It is best to avoid transplantation; the finest plants are those that are self-sown.

HENRY CORREYON.

NOTES ON LILIES.

LILIUM TESTACEUM.

A DELIGHTFUL Lily is this and seen at its best when grouped in the manner so well portrayed recently (p. 108) in *THE GARDEN*. Apart from its beauty, the fact that it succeeds so well in most gardens is another great point in its favour, for no special care and attention are needed. Thanks to the various horticultural publications, but more particularly to *THE GARDEN*, the cultural requirements of



HERACLEUM MANTEGAZZIANUM AT HOME IN THE ABKHASIAN CAUCASUS.

the different Lilies are much better understood than they formerly were, such knowledge having created a considerable demand for what may be regarded as good kinds; indeed, I have been assured by dealers in these subjects that the demand for this Lily since the recent publication of the analysis in *THE GARDEN* has been very great. When in bloom there is no other Lily with which this can be confounded, the colour of the flower being a peculiar yet remarkably pleasing shade of nankeen or buff, against which the bright coloured anthers stand out very conspicuously. Beside the specific name of *testaceum*, it is sometimes known as *Isabellinum* and *excelsum*. When in good condition this latter name is not at all an inappropriate one, for though this Lily, as with all the rest, varies according to situation and other particulars, it will run up to a height of 6 feet or 7 feet. These tall stems, though sufficiently stout to carry the large head of blossoms, are not at all stiff, swaying as they do with a gentle breeze. The leaves are, as a rule, maintained until the flowering season is over, and on this account it is well adapted for growing in pots, while as the blossoms are pleasantly and not at all powerfully scented it can be used for decorations in confined places, where some Lilies would on this account be inadmissible. Though generally regarded as a hybrid between *L. candidum* and *L. chalcedonicum*, the origin and early history of this Lily seems to be doubtful. In a publication recently brought under my notice, viz., "Monographie Historique et Littéraire des Lis, par Fr. de Cannart d'Hamale," published at Malines, 1870, the writer says this Lily was first discovered by M. T. Ad Haage, jun., of Erfurt, among a large consignment of bulbs of *L. Martagon* that he had received from Holland in 1836. It was introduced into Belgium by M. L. Van Houtte, of Ghent, who received a boxful from M. Von Weissenborn, of Erfurt, in exchange for some Fuchsias in 1840 or 1841. It passed from Belgium into England, and flowered for the first time here in 1842 with Messrs. Rollisson, of Tooting, being then figured by Dr. Lindley in the Botanical Register. The writer goes on to suggest that this Lily may have been in the first place received from Japan, and if originally of hybrid origin puts forward as the supposed parents a white Lily, fertilised by pollen of *L. pomponium*. Though the above was written over thirty years ago, we know practically nothing more of the early history of this Lily than we did then. T.

AN ARTIST'S NOTE-BOOK.

BAMBUSA TESSELLATA.

THESE are two hardy Bamboos that stand out conspicuously from all the rest because of the size of their leaves. They are the species here figured—*Bambusa tessellata* and *B. palmata*—both of which have leaves much larger than those of any other hardy species. In *B. tessellata* the largest

are 18 inches long and $3\frac{1}{2}$ inches to 4 inches wide, tapering from the middle to a fine point. The upper surface is of a deep lustrous green, whilst the lower one is tinged with a glaucous hue. At one time I was inclined to

quite so large as *B. tessellata* nor so tapering, its stems are taller (5 feet to 7 feet), the habit is more erect, and the longitudinal veins of the leaf are more prominent. There is a mass of *B. tessellata* in the Bamboo garden at Kew just now at its best—as green and luxuriant as it was last August. The plant measures about 12 feet across, and the main bulk of its stems and leaves is about 3 feet high, forming a dense mass, the outer stems of which arch outwards to the ground; but rising out of this mass are some of last year's spiky growths, bearing one or two leaves, and these add infinitely to the grace and distinction of the plant.

In many gardens this Bamboo used to be (and may now be) known as *Bambusa* or *Arundo* Ragamowski. This last name is the one under which it was known in English gardens more than fifty years ago. It was probably the first of the hardy Asiatic Bamboos introduced. Thanks mainly to Mr. Freeman - Mitford's "The Bamboo Garden," the nomenclature of the hardy Bamboos, both in trade and private establishments, is much more satisfactory than it was five years ago. W. J. BEAN.

Arboretum, Kew.

FLORAL EXHIBITIONS.

IN view of the near approach of the season when horticultural societies usually arrange the prize lists for summer exhibitions, it may be appropriate to invite attention to one or two suggestions which may perhaps be regarded as improvements on past arrangements. Having visited many floral displays, almost to weariness through their uniformity, I cannot call to mind having seen any competition for collections of dried flowers and grasses. As these are always welcome for home decoration, a stimulus to their production and artistic arrangement could very readily be given by the introduction of classes for them at the flower shows, which at the same time would be a means of extending the knowledge of the varieties best suited to their use.

In the cut flower classes there is a tendency amongst committees to pay exclusive attention to flowers having size, form, and colour, as if these were the only points of attraction. Whatever the cause may be, the result is that many flowers, not only pleasing to the eye, but performing also another equally important service, do not receive at the hands of the exhibition fraternity the recognition they deserve. Take, for instance, the queen of flowers—the Rose. Some varieties have all the charm of form and colour, but are scentless, while others, equally fine, reward their patrons

with delightful perfume, yet the show prize lists take no note of the superior merits of the latter. Flowers yielding perfume have a distinct and just claim for recognition in classes specially allotted to them. A similar distinction



BAMBUSA TESSELLATA.

(From a drawing made at Kew by H. G. Moon.)

might with advantage be given to plants bearing perfumed foliage. This section requires further development, and is capable of rendering much useful service, although hybridisers pay it scant attention.

Another point to notice is the present unsatisfactory method of displaying cut blooms. Many flowers, although beautiful in themselves, seem bereft of much of their charm by being staged minus their own foliage. As exhibitors generally limit the number of flowers allowed to develop on the growing plant, there is no reason why a minimum quantity of stalk and foliage should be displayed on the show table.

In the case of the Rose, a change in the character of the class may be requisite. Probably if more encouragement were given to the display of growing plants, the case would be partially met, and with the certainty that many unprolific varieties would be discarded. In amateurs' exhibitions, and where such is practicable, a class might be arranged for a collection of plants of one species only, including both garden and wild varieties. This idea if carried out would, of course, be educational, as persons who are not advanced gardeners would at least be able to observe for themselves that the natural and peculiar local conditions under which the wild varieties thrive furnish a clue in many instances to the treatment, soil, and position best adapted to garden varieties of the same race.

W. H. WHARTON.

Woodland Avenue, Creve.

WORKERS AMONGST THE FLOWERS.

MR. JAMES DOUGLAS, V.M.H.

I ACCUDE with pleasure to the wish of my old friend, James Douglas, to be his brief biographer in that line of his life which is in touch with THE GARDEN series of "Workers Amongst the Flowers."

He could, I know, have written it himself, and with that glow of colour, life, and fresh-

ness that may easily be wanting under the more distant form of "the indirect narration," which gives only a sort of "*hortus siccus*" view of a friend, wherein, innocently speaking, he is "cut and dried."

James Douglas has had the double advantage of being, both by natural taste and training, acquainted with the ways of plant life. At the age of twelve that love became uncontrollable, and there was but a small village front garden in which to indulge it, a veritable *res angusta domi*. However, with a near relative at Hendersyke Park, Kelso, he saw a good deal of garden work, and chose as his first love in plants the Pansy and the Pink. The classical Auricula was also an early favourite; such a winsome flower that it has been both first and last with some good old florists, and I think will have to stay with us both so long as hand and eye can work.

James Douglas was intended for a schoolmaster, but being confessedly self-willed, said he would not, and hence in 1851 was sent to Mr. H. Tait's nursery in Kelso. There, a daily walk both ways, imposed a day of fourteen hours from home, for a period of three years. At Kelso there was a collection of edged Auriculas, at Mr. James Tait's, of Edenside. Here my friend was smitten with devout love for that fair flower, and from associations there he brought the happy name of "Edenside" to his own grounds at Great Bookham.

From Edenside of the North, he went to Newtondon, under an old-time gardener, Mr. William Thom, where were grown Hollyhocks, Dahlias, Roses, Pinks, Carnations, Pansies, and other plants—all well done.

For the sake of learning more, Mr. Douglas went to The Raith, near Kirkcaldy, and there met with Mr. John Laing, who had then begun a good work in cross-fertilisation at Dysart, the seat of Lord Rosslyn. Mr. Douglas longed to attempt similar work, but Mr. Laing left, and started the London branch of Downie

and Laird, with Mr. Laing as partner. After three years work at Busbridge Hall, Mr. Douglas, in 1863, became head gardener to Mr. Francis Whitbourn, of Loxford Hall, up to the time of that gentleman's death, in 1888; after that he remained other nine years in Mrs. Whitbourn's service, a grand total of thirty-four years. Here it was that I first knew Mr. Douglas, who was afterwards with the same family at Great Gearies, and enjoyed the same never-failing kindness through all that tract of time. Some few years before the end of it, he had bought a few acres of good land, and built himself a house; but finding it impossible to do justice to both places, he reluctantly resigned Great Gearies.

It barely needs a word of mine to testify to the all round skill of Mr. Douglas in horticulture, illustrated by leading prizes in the high class fruits, such as Pine Apples, Grapes, and Peaches; and among plants, Orchids, greenhouse plants, Hyacinths, Narcissus, and such like.

Again, it needs not my testimony to the trustworthiness of his practical writings in the horticultural press, a work long sustained and wrought in many branches.

I am thinking for the moment of his papers on Orchids, to which in my earlier years with those wondrous plants I was much indebted. He has also published, in book form, a treatise on the cultivation of "Hardy Florist Flowers," and on the "Carnation and Picotee," combining with a sufficiency of cultural instructions, the recognised standard of classical properties in each of the old round in the floral loves of old time florists.

Mr. Douglas is a rare instance of a head gardener on a large scale who would take to, and persevere in, or be granted an opportunity with almost forgotten florist flowers. In the Auriculas he has done long and good and patient service; and from seedlings of his own raising has produced flowers able to compete successfully with such as remain with us of the best varieties of bygone years.

But in the Auricula—it is the same with all of us who grow it—much more is possible and still remains to be done. The golden rule that "no man should hoe his own Turnips," lest he leave them too thick in the rows, is very applicable to the raiser of seedling florist flowers. He can scarcely be too strict with them.

So, too, in the Carnation and Picotee, Mr. Douglas has done valiantly, as in the Auricula. May I, however, be pardoned if I say, as an old florist, of a strict old school, in which, alas! so many of the "old boys" are taken from amongst us, that I have seen, among Carnations and Picotees of a newer school, things that would have horrified our elders.

I said to a wholesale grower of these popular types—not Mr. Douglas—"Why these mops! These crowded, distorted, confused, and 'strappy' petals! Surely such are not good form!" "Well," he replied, "you see we go in for colour mainly." So the old order changeth! It used to be, *get good form and colours will come*.



ONE OF MR. DOUGLAS'S CARNATION HOUSES AT GREAT BOOKHAM.

Mr. Douglas also grew for a while the Florist Tulip, *i.e.*, of the types shown by members of the Royal National Tulip Society. But I think from his not having at liberty the means for high finish of these highly susceptible flowers, he would wisely rather not do a thing at all than not do it well.

It was during a railway journey with some northern florists that Mr. Douglas, in 1876, started the idea of a southern section in the National Auricula and in the National Carnation and Picotee Societies, which have thriven so fairly, and now so surpass the northern sections, in number of their members, and consequently in the quantity of dust and ashes laid up at their bankers.

At first we had hoped to join mutually in bringing flowers to either show, but only in very few years could extremes meet. For the Royal Auricula cannot be successfully hurried on at all, nor can the florist Carnation be drawn out with credit to it. Neither can the Tulip—of higher rank and properties than the ill-fated "toy" sorts, grown only to be forced, and potted, and soap-boxed, and cut and thrown away—be played with.

These florist attributes may be sometimes tiresome, but they command respect.

FRANCIS D. HORNER, V.M.H.
Burton-in-Lonsdale.

GARDENING OF THE WEEK.

CHRYSANTHEMUMS.

TREATMENT OF NEW VARIETIES.

NEW and scarce kinds ordered from the various nurserymen as rooted plants will shortly be in the hands of the cultivator, and these will for a time require careful treatment. As a rule the plants are sent out without pots or soil, for the convenience of packing and easy transit. Generally speaking, the young plants have been propagated and subjected to a strong heat, consequently they must be tenderly nursed for a time, until new roots are made and the plants become thoroughly established. These should be unpacked in a warm potting shed or house. Pot into well-drained 3-inch pots, using a light sandy compost, and place in a temperature of about 55° and keep close for a few days. Damp over head often, and never allow the foliage to flag if possible. Gradually introduce to more light and air, when in a short time these will be in a fit state to arrange with the general collection. Examine the new comers minutely for any trace of the dreaded

RUST.

Many a clean, healthy collection has been ruined by new introductions. Should the slightest trace be discovered, pick off every affected leaf and burn it. Isolate the plants from all others, and syringe with paraffin and water in a tepid state every ten days. This should be thoroughly mixed, and used at the rate of a wine glass of paraffin to four gallons of soft water. One syringeful should be discharged vigorously into the vessel containing the mixture, and the next sprayed over and about the foliage. This will ensure it becoming thoroughly mixed.

In my opinion, paraffin is the best and surest remedy yet discovered for eradicating this dreaded fungus, and I venture to say if this is persistently used rust, if not entirely stamped out, will be held in check, so that little damage will result. It is at this season that means should be taken

to arrest it, for it is now most active, making its reappearance again during autumn. Especially after the plants have been housed a free circulation of air should always be maintained, as a close, stagnant atmosphere is most favourable to its development. It is surprising with what rapidity it spreads when allowed to go unchecked. At the present time I know of two collections which are badly infested, and if ours were in the same condition I should not hesitate to burn the whole lot and make another start with a healthy batch, taking care to keep them well away from the structure in which the affected ones had been growing. This can be done at the present season, but, of course, it is out of the question after the growth is completed in autumn.

DECORATIVE KINDS,

which have been rooted several in 3-inch pots, should now be potted off singly into 2½-inch pots, using the same kind of compost as advised for other kinds in the same stage. A cold frame



MR. JAMES DOUGLAS, V.M.H.

will now suffice for those which should be kept close for a short time until the plants recover from the slight check they must necessarily receive. If for any reason this section has not been propagated there is yet time for so doing, though such good results can hardly be expected as when the cuttings are rooted in February, especially when large bush plants are required. When striking at this season the cuttings should be inserted singly in 2½-inch pots, and every facility afforded them to strike and grow away freely.

POMPON AND POMPON ANEMONES

ought now to be ready for repotting into 3-inch pots, and when they have reached the height of about 4 inches the points should be picked out, which is best done about a week or ten days after potting. This section makes useful and attractive little plants when grown and flowered in 6-inch pots, especially when suitable varieties are selected for the purpose. March is the best time for striking the cuttings. Strike singly in 2½-inch

pots, pot on into 3-inch, and finally into their flowering pots. These should be stopped three times and disbudded, as advised for the larger plants, and these are particularly well suited for conservatory and house decoration. Choose those varieties with a natural tendency to stand erect when in flower. Elise Dordan is a first-rate kind for this mode of treatment.

E. BECKETT.
Aldenham House Gardens, Elstree, Herts.

KITCHEN GARDEN.

THE wintry weather of the past fortnight will have considerably delayed many operations in this department, and left much ground work untouched. Advantage should be taken of such weather to push forward all preparatory work, such as sharpening a plentiful supply of Pea sticks in readiness for future requirements, looking over Carrot stores, Onions, &c., so that when the frost has gone none of this kind of work will remain to be done.

ABOUT POTATOES.

Potato sets may be laid out singly in a cold shed where the frost is merely excluded; here the tubers will keep firm, and what little growth they do make will be sturdy. The sets for early planting are much better advanced in this way than in heat, as they receive no check when placed in the ground, the aim at all times being to obtain a few new Potatoes from the open ground as early in the season as possible. A few may now be planted at the foot of a south wall or in a sheltered border, where protection can be given in case of spring frost. No manure will be necessary, but the soil must be light and open; if wet and cold, a spit may be taken out and replaced by some old potting soil, road scrapings, &c., with a sprinkling of wood ashes. In this way the time of lifting may be hastened by eight or ten days. In gardens situated in low-lying, damp districts the planting of large quantities should be deferred till April, as by so doing the ill effects of frost are avoided and good results obtained. The distance between the sets must depend on the habit of the variety planted and the richness of the soil. For Ashleaf varieties 8 inches will be sufficient for the first planting, but for strong growing kinds 12 inches or 14 inches will be found to give better results. For the first planting Veitch's Improved Ashleaf, Sharp's Victor, and White Beauty of Hebron are good trustworthy sorts. As soon as the young shoots make their appearance they must be carefully protected from frost and cold wind by sprinkling long litter or Fern over them at night.

TURNIPS.

The first sowing of Turnips should be made (as soon as the state of the soil will permit) on a south border or other sheltered position where the soil is of a light sandy nature. Stiff, retentive soil is unsuitable for the cultivation of well-flavoured Turnips.

No matter what the variety may be, it not only reduces the quality of the bulb but renders it more likely to run to seed than if sown on a light rich soil, where it can be grown without a check. Seed may be sown in drills 9 inches apart and 1 inch deep, and covered lightly with the feet from each side, and a wooden rake passed over the border to give it a neat appearance. Early Snowball is a good kind for the early sowing in the open; it is slow to run to seed, the flesh is sweet and tender, and the bulb is of fine shape. Sprinkle frequently with soot and lime as soon as the young plants appear above the ground or the birds may clear the crop in a few days. As soon as sufficiently advanced the seedlings may be thinned to 6 inches apart, and the hoe run through the drills to keep them free from weeds. A sowing of Early Milan may be made in a cold frame, to come into use in advance of those above mentioned; they may be sown broadcast and thinned to 4 inches apart. Avoid sharp changes in the temperature by

giving plenty of air at all times, and never allow the bed to become dry or failure is sure to follow. Dry soil is one of the most fertile causes of running to seed, and must be avoided. J. DUNN.

Royal Kitchen Gardens, Windsor.

THE FLOWER GARDEN.

HOLLYHOCKS.

NAMED varieties of Hollyhocks worked up from offshoots have been so much subject to the Orange fungus—a practically incurable disease—of late years that their cultivation has been entirely given up in many gardens. Personally I do not regret the loss of these named varieties, which were generally chosen because so double, as seedlings raised and treated as biennials are far less subject to disease, and may be depended on almost with certainty to give a good display, even though they may lose a few of their lower leaves. Seedlings, too, come almost true to colour. The present is a good time to plant in their permanent positions such seedlings as have been raised from seed sown outdoors in the early part of last summer. The soil should be rich and well dug, then the spikes will be tall and strong.

ROSES.

The proper time to plant Roses is, without doubt, November; but spring planting may also be successfully carried out provided a little extra care in the matter of watering and mulching is taken. The results then will be almost as good. For Hybrid Perpetuals, however, no time should now be lost, as most of these flower in June and have no second flowering season, so it is necessary to establish them early. Teas wintered in pots or bought in from a nursery should be reserved for planting in April, so that they may escape the cutting winds of March, which often destroy precocious shoots which spring from the bases of the plants, and which shoots, if preserved, would make good and strong flowering growths. A good rich root run should be provided for all Roses, and the soil in planting should be trodden firmly around the roots, which should also be buried somewhat deeply, so that the collar of each plant is well below the soil. This induces the real Rose plant to root and to become independent of the stock on which it is budded.

MONTERETIAS.

Probably these useful bulbous plants would be more often seen in good condition if they were not quite so hardy, for then we should be inclined to lift and store them like Gladioli, the tufts of growth would never become congested, and better flower spikes would be more often seen. Owing to the smallness of the corms and their absolute unrest, storing safely is not easily done, but we may at least lift the clumps annually, select the strongest corms, and replant them in fairly rich sandy soil. The first break of winter is the best time to carry out this lifting and replanting. Continental growers have been improving these plants of late years, and have raised many with large and well-coloured flowers; they have also improved the size of the spikes, so that one should not now be content with the old *M. Pottsi* and *M. crocosmiæflora* only. A recent article in *THE GARDEN* may be read with a view of choosing the best forms, and will prove interesting to those who wish to see what has been done in the way of improvements within the past twenty years.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

INDOOR GARDEN.

HYDRANGEAS.

HYDRANGEA HORTENSIS and *H. Thomas Hogg* having been wintered till now in a cold frame should be introduced to more comfortable quarters with a view to their being forced. Make the plants and pots neat by removing decayed leaves from the former and scrubbing the latter; if the plants were properly prepared last season they will soon show flower; a little farmyard liquid manure with a dash of soot alternately with Clay's Fertilizer should then be used. *Hydrangea paniculata grandiflora* having also been standing in the open ground

should be shortened back to within 2 inches of the old wood and straightway put into a vinery or Peach house that is started. The growths, as they appear and when sufficiently large to enable one to see which are the best placed and strongest, should be thinned out to, say, five—if the stool is a strong one—to a 6-inch pot, stand near the glass, and as this and all other *Hydrangeas* are subject to green fly fumigating once fortnightly should be practised.

LILIUMS.

Both *L. Harrisii* and *L. eximium* having made satisfactory growth should have a neat green-painted stick placed to each and the growth secured thereto; green fly is also troublesome, and should be kept in check by the simple method advised in this calendar; heat and moisture, with plenty of light, are most essential. *Gardenias* and *Ixoras* now rooted, and up till now located in the propagating case, may be turned out and potted up singly into small pots; peat, loam, leaf-soil, and sand in equal parts should be employed, and when potted, and space will permit, they should be returned to their former quarters, where, with bottom heat and moist conditions generally, they will soon make a start, when, if the position is required, they may the sooner be taken out, stood near the glass, and when 3 inches of top growth is made they should have the mere top removed. J. F. McLEOD.

Dover House Gardens, Roehampton.

FRUIT GARDEN.

EARLY FIGS IN POTS.

THE earliest forced trees during the past few weeks have not made much progress. With pot trees there is often too much fruit left at the start, but this is not wise. It is much better to have a smaller number of good fruits than a lot of small ones. This latter remark applies to such kinds as the *St. John's* and *Pingo de Mel*, for these two varieties force more freely than older kinds. At this stage, pot trees started in December will now need food freely in the shape of fertilisers or liquid manure. At no time should the trees suffer for want of water, and this is more needful now with fruits approaching maturity than at any other season, as if at all dry the fruits drop badly. Less syringing will suffice as the fruits approach maturity, but the house should be kept moist, the floors, &c., being damped twice daily. The second growths must be kept closely stopped at three or four joints above the fruits, and any weak spray growth be rubbed off. Temperatures may be more liberal in the day during sun-heat, but 60° or a few degrees more at night are high enough. As soon as the fruits are cleared the trees should have a good top-dressing, and will then perfect the new wood made.

FIGS IN BORDERS.

My succession crop to follow pot trees are produced on old trees at the back of early vineries. I get some very good fruit at the upper portion of the house, but the *Vines* are not allowed to grow too close to them. Old trees forced yearly fruit freely treated thus. There can be no question but that *Brown Turkey* is the most valuable and most reliable, but there must be no crowding of wood, and close stopping is essential. Abundance of moisture is needed by trees bearing a full crop, with occasional supplies of food as advised above for pot trees. There is no difficulty

whatever in securing two crops from trees on back walls, as whilst the first crop is maturing, if close stopping is attended to, the second crop is forming. Should the trees be at all gross, omit giving manures and give more ventilation and less moisture. The temperature for early *Vines* will suit the *Fig*. Should rust attack the foliage, as is sometimes the case, do not syringe overhead for a time; keep the house cooler and avoid draughts, and it may be necessary to slightly shade the trees for a short time. Scale also is a troublesome pest, but this should be kept clear of the trees by thorough winter cleansing when the growth is at rest.

LATER TREES.

These, started early in the spring, will produce fine fruits in the summer if not forced too hard. Any pruning and cleansing should be done before the trees are trained, and in the case of permanent trees it is well to dispose the branches thinly so that the fruits are not crowded. Any root-pruning or top-dressing should be done at this date. The former is a necessity with trees growing very strongly and giving few fruits. Fill in near the roots with a compost specially prepared, such as good loam with a liberal proportion of old mortar rubble and wood ashes, the soil being well rammed as it is placed in position. In no case should manures be employed, as food is best given in a liquid state or as a top-dressing when the trees are perfecting their fruits. Now is a good time to propagate young stock from eyes or buds, the same as is adopted for *Vines* from well-matured wood. It is surprising how quickly good trees may be grown from eyes struck in March, as advised above. G. WYTHES.

ORCHIDS.

NOTES ABOUT WARM ORCHIDS.

AMONGST these are the *Zygopetalums*, *Bollea*, *Batemannia*, *Pescatorea*, *Huntleya*, *Promenaea*, and *Warszewiczella*. Of the *Zygopetalums* the most beautiful are *Z. Patini*, *Z. meleagris*, *Z. dayana*, *Z. klabochorum*, *Z. Wallisi*, *Z. Burti*, and *Z. Burti Pitt's* variety, which is superb. The cultivation of *Zygopetalums* was at one time difficult, but now, owing to their requirements being better understood, they grow and flower freely in most collections. *Bolleas*, *Batemannias*, and *Pescatores* revel in a warm, humid atmosphere, the temperature ranging from 60° to 65° by night and 70° by day during winter by fire-heat, and 65° to 70° by night and 70° to 75° by day during spring, summer, and autumn, the temperature rising considerably above these figures by sun-heat. The plants, though lovers of

light, should be well shaded from the rays of the sun at all times, for, if allowed to shine direct upon the foliage for but a short time only, it will cause the leaves to turn yellow and give the plants an unhealthy appearance. The plants should occupy a position near the glass, perfectly free from draught of any kind. Air should be carefully admitted to the house by the lower ventilators on all favourable occasions. A little air may be admitted by the top ventilators on exceptionally hot and still days during summer.



C. CODEFROYE LEUCOCHILUM WIGAN'S VARIETY (REDUCED).

During summer and when growing freely an abundance of water should be applied to the roots, and even during winter as soon as the compost is becoming dry. Lightly spray the plants overhead morning and afternoon during summer; at other seasons once on bright days will be sufficient. During winter the practice should be discontinued.

Repotting of the plants may take place at any time of the year providing they are in the right stage, that is, when the young growths are a few inches long and emitting new roots from their bases. Raise the plants a little above the rim of the pot and place very little material about their roots. Peat and sphagnum moss in equal proportions form the most suitable compost.

Propagation is easily effected when the young growths are a few inches long and emitting new roots from their bases. The rhizome should be severed, and the young growths taken therefrom and placed singly in pots. The back growths should be allowed to remain in the pots undisturbed, which will in time produce other young growths.

F. W. THURGOOD.

Rosslyn Gardens,
Stamford Hill, N.

CYPRIPEDIUM GODEFROYÆ LEU- COCHILUM.

THE native habitat of this natural hybrid has never been clearly divulged, but there is no doubt that it is to be found in quantities and in some out-of-the-way station, as proved by the unfavourable condition in which the plants reach this country. I have seen several importations, all of which have come through private sources, but in all the importations only a small percentage of plants have had sufficient life to induce them to grow. This being the case, *C. G. leucochilum* has always been a scarce and much-sought-after plant. The better forms are highly prized, and considered by many better than any of this section of *Cypripediums*. *C. G. leucochilum* was originally imported, and the first importation was purchased by the enthusiastic *Cypripedium* amateurs, Mr. Measures, of Camberwell, and Mr. R. H. Measures, Streatham, in 1890. The plants were divided between them. On August 28, 1891, the former exhibited at the Drill Hall one of the plants from this importation under the name of *C. leucochilum*, which was then considered a natural hybrid between *C. Godefroyæ* and *C. bellatulum*. A few months after this I took charge of Mr. Measures' collection, and was much struck by the distinctive features among this batch of plants. As these grew stronger and flowered there were *C. bellatulum*, *C. niveum*, *C. concolor*, and typical varieties of *C. Godefroyæ*, as well as the white lipped kinds now known as *C. Godefroyæ leucochilum*. I was so struck by the intermediate characteristics of the different forms that when Mr. R. A. Rolfe called one day I drew his attention to the possibility of natural hybrids. He, like most botanists, was for a long time undecided, but he ultimately came to the conclusion that the white ground forms were natural

hybrids between *C. bellatulum* and *C. niveum*. These would include *C. Godefroyæ leucochilum*.

Shortly after this period plants that had been artificially fertilised between the above-named species, and proved to be identical with *C. Godefroyæ*, flowered in different trade and private establishments. At the Temple show in 1897 Mr. Statter showed a plant under the name of *C. concolor-bellatulum*, which was also stated to have been artificially raised. This struck me at the time as being remarkably like the yellow ground forms, one of which had been previously certificated as *C. Godefroyæ leucochilum aureum*. I have since had opportunities of comparison, and I have not the slightest doubt but that the yellow

of merit. On May 11, 1895, *C. G. leucochilum* was exhibited and received a first-class certificate. This is by far the finest variety that we have had. The three above mentioned came in the original importation, and were exhibited by Mr. R. I. Measures. Particulars of these will be found in THE GARDEN report of plants certificated at the meetings.

Another remarkable kind is figured in THE GARDEN, vol. liii., page 39—*C. G. l. godseffianum*. In the note accompanying this it is remarked that a flower was included in an Orchid bouquet presented to the Queen at the Jubilee, and, further, that the writer was in a position to state that the owner would not accept £1,000 for the plant.

The subject of the accompanying illustration, *C. G. l. Wigan's* variety, was exhibited at the Drill Hall on June 5 last. As represented the flower is three-quarters natural size, and is one of the most distinct and pretty forms we have seen. The dorsal sepal is white, with some indistinct network of purple in the centre. This is reflected through from the purple suffusion at the back. The petals are white, thickly spotted through the central and basal areas with purple; the lip white, with numerous miniature spots; the column white, with a distinct blotch of green in the centre of the disc. The finely-grown plant carried three flowers and two buds, and came from the collection of Sir F. Wigan, Clare Lawn, East Sheen (gardener, Mr. W. H. Young). I find that this section does best when potted in a compost of broken tufa stone or lime rubble, to which may be added a little turfy loam. The plants like a position close to the roof-glass and also the temperature of the intermediate house. Water freely while in active growth. Only sufficient will be required to maintain a plump condition of the leaves during the resting season.

H. J. CHAPMAN.



TERRACE OF POLLARD BEECHES.

A Terrace of Pollard Beeches.

FLOWER-GARNISHED terraces are always beautiful in gardens, but in large places where flowers are many it is restful to the mind and eye to pass into spaces of ordered greenery alone. Many are the ways in which these may be designed and disposed, but one of the most unusual

is that which has been employed in the garden of an old Tudor house in Sussex, where a line of Beeches, planted close to the foot of a wall, show bare stems to nearly the height of the wall and then are clipped into rounded heads.

ground varieties found among the imported plants have their origin in *C. concolor* and *C. bellatulum*. These latter do not possess the longer flower-stalk that is found in the white ground kinds. The tassellation on the foliage is also lighter above, the leaves not so thick in substance, and they have not so much purple on the under sides. They form a most interesting and beautiful addition to this section, and possess better constitutions than is the case generally with the *C. niveum* and *C. bellatulum* group. Several remarkable forms have been placed before the Orchid committee and have received recognition. *C. Godefroyæ leucochilum* Cambridge Lodge variety and *C. G. l. aureum* were exhibited on August 14, 1894, and received awards

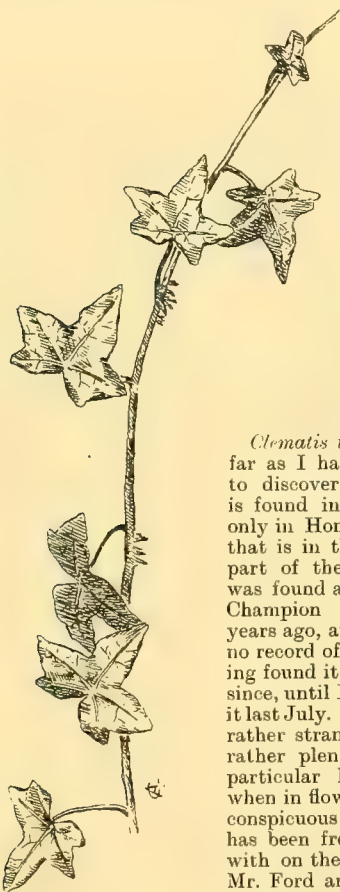
HONG KONG NOTES.

Geodorum dilatatum.—A native collector found this plant in Hong Kong for the first time in 1896, at an altitude of upwards of 1,200 feet. In the following year I was successful in collecting it in an entirely different locality, at about the same

altitude. In the middle of last July I found it again (one plant only) in still another district, but at almost sea-level. The flowers of the specimens found by the Chinaman in 1896 were white, with the exception of a small tinge of yellow on the lip, and when I was home in 1898 Mr. Rolfe informed me that he could not distinguish any difference between the Hong Kong specimens and those from Ceylon. The plants found in 1897 had light purple flowers, but in no other way differed from the type. The specimen discovered recently was considerably larger than any of those found hitherto, and had white flowers. The two scapes which it bore were upwards of 20 inches in height, and were carrying about two dozen flowers each. Roxburgh, in "Flora Indies," volume iii., page 469, gives a good description of the plant, under the name of *Limodorum recurvum*. He mentions the length of the scape to be about 6 inches, so that a plant with a scape 20 inches in length must be an exceptionally strong one. The leaves are from 6 inches to 24 inches long, plicated, and somewhat like those of *Phaius grandifolius*, and

proceed from a tuberous rootstock. The scapes which are decurved, are produced from the side of the rootstock when the leaves are about half developed. After the plant has matured its growth the leaves die down.

Clematis micinata.—So far as I have been able to discover, this plant is found in one locality only in Hong Kong, and that is in the south-east part of the island. It was found and named by Champion about fifty years ago, and I can find no record of anyone having found it in the island since, until I came across it last July. This appears rather strange as it was rather plentiful in this particular locality, and when in flower is a most conspicuous object. It has been frequently met with on the mainland by Mr. Ford and other collectors. I first noticed it alongside the road trailing over bushes, but I subsequently saw fine specimens which had made their way to the tops of trees 30 feet or 40 feet high. The leaves vary from pinnate with five segments to bipinnate (or five times ternate) with fifteen segments. The segments are ovate-lanceolate, acuminate, the apex ending in a small, stiff hook (hence the name, I presume), glabrous on the upper and glaucous on the under sides, and about 2 inches long in the Hong Kong specimens. The panicles are produced in the axils of the upper leaves for some 2 feet or 3 feet along the stem, the whole forming a magnificent wreath of bloom. The flowers are white and are individually about 1½ inches across and powerfully scented. W. J. TUTCHER.



GRACILIS HEDERA HELIX.

Botanic Gardens, Hong Kong.

SMALL-LEAVED IVIES.

THE common Ivy when growing in an exposed position will often acquire a rich bronzy hue during winter, but in this respect individual plants vary a good deal, the smaller-leaved forms being as a rule the richest in colour.

The most marked in this respect, and one that from its neat, prettily-lobed leaves is well suited for use in making up button-holes, sprays, &c., is the variety *atropurpurea*, whose distinctive character is far more marked in winter than in summer. *Hedera Helix minima*, shown in one of the accompanying illustrations, must not be confounded with *H. H. conglomerata*, though at a certain stage of growth there is some similarity. A three year old specimen differs from the freer *conglomerata* form in that it grows more flat both as regards the twigs and the leaves on the twigs. It has more shining foliage of a deeper and more sombre green, with pleasing clouded tints, and further, as the name would suggest, it is a smaller plant in all its parts. It is a lovely creeper for positions on the rockery, and is one of the best surface plants, as through its bulbs may spear their growth and flowers without injury. *Hedera Helix pedata* and *H. H. gracilis*, both charming varieties of the small-leaved Ivies, should be in every collection. Those interested in these valuable evergreen climbers should not fail to visit the Chiswick gardens of the Royal Horticultural Society, for there may be found a most representative collection.

The uses to which Ivy may be put are innumerable, and with the many beautiful varieties that are now to be obtained their sphere of usefulness has considerably extended. I believe one of the most picturesque methods of growing Ivy is to allow it to clamber over tree stumps placed here and there in suitable parts of the garden. Ivy banks also are very charming, and for carpeting the bare ground beneath the spreading branches of large trees nothing could be more suitable. For the latter purpose the shoots should be pegged down and kept in position so that they may take root. Suitable varieties for this purpose are *H. dentata*, *H. regneriana*, *rhomboidea*, *obovata*, *hamalaica*, *pedata*, *palmata*, *lobata*, &c.

T. W.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

THE SMALLER CAMPANULAS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I am glad to see that we seem likely to get a symposium on the Campanulas. I am mistaken if it will not prove a more fruitful one than that upon Lilies. Unlike the latter, our climate suits most of the Bell-flowers well enough. A fairly complete botanical as well as garden list is doubtless to be desired, but I am indisposed to think that many known species or varieties of any great beauty are absent from the leading catalogues. A word or two on some of the least common.

In reply to Mr. Molyneux, *Campanula Erinus*, as I have it, is more like a very small *C. muralis* or *portenschlagiana*, and is far removed from *C. Elatines*. The latter I also have somewhere; it more nearly approaches *C. garganica*. I write by reference to broad garden characteristics, and not to mere botanical differences. A list of synonyms would be useful, but really the Campanulas are not at all, as far as I know, in any such confusion as are the Saxifragas, *Sempervivums*, *Sedums*, *Asters*, and other genera; and, given that we can identify the plant intended, I am of those who

care little to be always amassing evidence as to which species or variety has the prior right to a certain name. Custom, when established, may fairly enough be held to settle such questions of nomenclature as well as of pronunciation. If any pains could, always and conclusively determine such rights, absolutely and authoritatively, it would be different, for precision has much scientific value.

We now all of us know pretty well the two completely diverse forms passing under the name "G. F. Wilson" described by Mr. Molyneux. I fancy neither has any other name, and certainly they must have had a distinct origin as regards one parent. My surmise would be that *C. pulla* being present in each (there seems no other common element) explains both its two (only?) children getting named similarly. Mr. G. F. Wilson might help to make this clear. I should like to know if true *C. alpina* is to be seen or procured now in this country. I have been without it for years. I fear that it, like *C. mirabilis*, is only biennial. *C. Hendersoni* I have often lost, but I cannot determine if it be certainly also biennial. *C. alpina* is quite charming, and one of the miniatures. The difficult *C. Zoisii* is markedly a chalk lover. It lived here nicely for several years in a most unpromising home upon a Pulhamite rockery. There, I think, was the secret of its success, viz., meagre sustenance. The distinctive form of its flower has been well indicated as that of an Armstrong gun. *C. cenisia* is quite different. I have often flowered it in a soil half at least of stones, but it is difficult and easily lost. Miss Willmott I think it was who told me she has had a plant of it with forty-two blooms during the last year or two.

Beautiful but not generally easy, though one has bloomed them from time to time, are *C. Allioni*, *C. tridentata*, and its variety *C. trid. var. Saxifraga*. The first-named certainly likes to run riot among loose stones, and is a tremendous rooter. *C. barbata* is easily grown, perennial and remarkably charming, yet it is rarely seen. All the foregoing, except *C. mirabilis* and *Hendersoni*, are small. To these small species I wholly give the palm for beauty. Coarse ones like *urticaefolia* and *Trachelium* may be useful wild garden plants, but are in a completely different category from the alpine gems. To these latter must be added *C. turbinata*. The plant and the flower are both dwarf and neat and not to be confounded with the big *C. carpatica*, which is, however, grand (for border or big rock garden) in its own larger way. The two last-named species seem to have crossed freely, and the children are a rabble



H. H. MINIMA (SOMETIMES CALLED MISIATA.)



H. H. PEDATA.

* * Secretaries of societies are invited to send notes of meetings, exhibitions, and forthcoming events. We shall welcome also notices of gardening appointments.

of all heights and habits, but true *C. turbinata* should alone be had for the small and choice rockery. I hope and believe I have raised an albino from it, but a cruel doubt has been implanted in my mind on the question, which waits solution in the coming season. Any named thus far are completely hardy as regards cold. So much cannot be said for the Italian Bell-flowers *isophylla*, *fragilis*, and *elatines*. (Am I right that the latter is Italian?) These worry through the winter, however, in protected spots down south. The little *C. Raineri* and my *C. Raineri hybrida* (nobody has ever to my knowledge even claimed to have solved the latter's origin) are surpassed by none, to my thinking, among small alpine forms. In the same class are the well known dark flowered *C. pulla*, the excellent slate-blue flowered, late blooming hybrid *Profusion* (Jenkins), the well known *portenschlagiana* (= *muralis* when small and = *bavarica* when big), and the beautiful little species *C. waldsteiniana* and *C. Tommassini*. I have had three very distinct plants (all delicately beautiful) under the names of *C. pumila* and *pumilla*, and if the distinctions in this group are fairly well settled I would fain be helped to know them. The broader or larger habited sorts I leave to others to list. To my thinking some few are too coarse to be acceptable, and the best are *C. Van Houttei* from China, *C. Burghaltii*, perhaps but a refined form of the last, *C. nobilis* (with chocolate coloured flowers), and *C. punctata*, said to be the white-flowered variety of the same.

Gulford.

H. SELFE LEONARD.

[We shall publish shortly exhaustive articles upon the dwarf Campanulas.—Eds.]

CHISWICK GARDENS AND ITS STUDENTS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Those Fellows of the Royal Horticultural Society who carefully read the report of the council recently issued cannot fail to have noticed that a very prominent position is given in that document to the advantages presented at Chiswick to students in horticulture, and the progress made by them there. Judging by the statements made in the paragraph devoted to this subject, it would seem as if the students were more advanced in botanical knowledge than in that of practical horticulture, for out of the large number referred to only two have taken positions in private gardens, and it is chiefly in such gardens they may be expected to need and to apply real gardening knowledge. Now, whatever may be the special or individual aims of students at Chiswick, and it would seem as if few cared to enter the ranks of practical gardeners, it is evident that a royal society, established especially to promote the interests of practical horticulture, and which so evidently regards as a part of its duty the training of youths in horticulture, should, in undertaking work of such importance and responsibility, have at its disposal fitting means and appliances for such work. That being so, I ask—Does Chiswick or can Chiswick be made in any way capable of offering such educational and training facilities to youths anxious to acquire a reasonable knowledge of gardening, such as a royal society should be in a position to furnish?

I am fully aware that whatever shortcoming may be found it is not due to the able superintendent, Mr. Wright, who is essentially a practical gardener. He does his best with the material at his disposal, and it is easy to understand in reading the paragraph in the report referred to that the words in italics, "Must all be workers," as applied to students, is from his pen, as it is quite impossible for any man, however able, to train a body of students in horticultural work unless they submit thoroughly to his requirements, and not only ready in theory, but work freely in practice. But is it possible that the council can be satisfied with its Chiswick Gardens as a training school of horticulture? Can it be content to go on receiving students at such a place as Chiswick is? Its growing population is yearly rendering it less and less fitted to be a training garden; its glass houses are of an antiquated and semi-tumble-

down character; some of them indeed are too worthless to repair. Scarcely any of these houses are fitted to display high-class culture in plants or fruits, and the entire gardens are for the purpose named inferior to many second-rate private gardens, whilst a very long way below the standard of suitability found in the best private gardens. Some not too wise persons wish to see flower, vegetable, and fruit-growing trials dispensed with at Chiswick; yet these very trials, especially of flowers and vegetables, furnish to the students almost their only opportunity to obtain practical knowledge in relation to these various products. No doubt the grave need for some more fitting garden as a school of horticulture was present in the minds of the council a year since when that body proposed to find a new site for a garden; but we seem now no nearer the provision of such absolutely essential requirement, the council having, it is feared, permitted itself to be diverted from what is an imperative duty by some rather overbearing and most unwise advisers. It never seems to have occurred to these people that the society has a great need for a proper school of horticulture for its numerous students. We need for gardening what botany has in Kew, and agriculture has in Wye College and its training farm. Why, then, does the Royal Horticultural Society council allow this most important matter to be hung up, or, as expressed in the report, be "occupying attention?" Surely it is time something of a far more conclusive nature was decided. If the council determines to do as some of its advisers so unwisely desire, to remain at Chiswick for the remainder of the lease—some twenty years—then must it at once expend £5,000 in a thorough reconstruction of its glass alone, with the result that when the lease expires the society loses everything. A thousand times better to purchase ground for itself, to build on it for itself, to make in the open country a real garden training school, where students are remote from town attractions and distractions, and thus show that it realises its responsibilities, not only to the students, but to horticulture generally.

A FELLOW.

[We agree entirely with this practical letter from a fellow of the society, whom we know to be a horticulturist of ripe experience. We are hopeful, however, that the council of the society, or any meeting called together to give effect to the way in which the centenary shall be celebrated, will never consent to retain Chiswick and relinquish the excellent proposals to create a new garden for the sake of a big hall. If the hall for horticulture is decided upon the society enters upon another era of fallen fortunes. We give credit to the society for having profited from past experiences.—Eds.]

PLUMS AS CORDONS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In a recent issue of THE GARDEN, the Editor, in replying to a correspondent's query, gives a short list of culinary Plums suitable for growing as cordons, which, if but a limited number of varieties were required, would be difficult to beat. My object in writing is, however, to supplement the Editor's list for the benefit of those who may wish for a greater number to select from, and I therefore propose the addition of the following six varieties:—Sultan, Archduke, Belgian Purple, Prince Englebert, Primate, and Coe's Late Red. The first-named is an improvement on Prince of Wales, the fruit being large, round, and red in colour, ripening about the middle of August. The next is a large black Plum, which matures the first week in October. Both this and the first-named are first-rate, and very prolific when grown in cordon form. Belgian Purple is a large-sized fruit, deep purple in colour, and ripens about the middle of August. Prince Englebert is also a large-sized deep purplish coloured fruit, which ripens the end of August, and later according to locality. Primate is another large new sort, of a purplish-red colour. This is a late ripening kind, and will hang well into October. The last on the list is by no means a new one,

but is, nevertheless, one of the best late varieties we possess. Its fruits are round and medium sized, bright or reddish-purple in colour, and the flavour decidedly good. It crops most freely when grown as a cordon, the trees producing an abundance of spurs freely set with fruit buds. I have frequently had fruit hanging in good condition well into the month of November. Of dessert kinds, Boulouf, Comte d'Althuis (Gage), Coe's Golden Drop, Jefferson, Denniston's Superb, Bryanston Greengage, Early and Late Transparent Gages, Purple Gage or Reine Claude Violette, Reine Claude de Bavay, Greengage, and Guthrie's Late Green are twelve that succeed well as cordons.

The best way to form cordons is to purchase maiden trees, and plant them from 18 inches to 24 inches apart against a wall, and cut them back to a sound bud to within 1 foot or so of the ground line. The first season these young trees make good strong growths, the best situated of which, or one on each, should be trained up the face of the wall to form the future stems; pinch all others back to four buds. At the end of the growing season cut back the leader to a point where the wood is well ripened, and shorten back if necessary any pieces of wood on the spurs that may be projecting too far from the wall. The following season train up the leading shoot and stop all other growths to form spurs with as before, and prune the leader in the autumn as already advised. After this, pinching, or summer pruning, must have strict attention, to keep the trees well furnished with fruiting spurs, and if this is deferred until the end of July or thereabouts it will prevent a great quantity of secondary growths being made. Before concluding, one other important matter in connection with the successful cultivation of the Plum as a cordon must be mentioned, and that is the necessity for lifting the roots of trees the second year after planting to bring them into a fruitful condition. The trees may be trained with two stems to each, in the form of the letter U, if desired, but according to my experience single-stemmed trees give far the best results.

Trent Park Gardens.

A. W.

STREET TREES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was much interested in reading the remarks by your correspondent "A. D." on planting trees in streets. As a resident in one of the south-west suburbs, where many of the streets are planted with trees, I can fully endorse all that he says. The suburbs are not ideal places to live in at any time, and I often think of the saying that "God made the country, man made the towns, and the devil made the suburbs." However that may be, the streets are not improved by planting forest trees in them, and not only are they planted in the streets but also in the small gardens of the houses. In the garden that joins mine at the back of my house (fortunately to the north) are a row of Lombardy Poplars, planted close to the party wall. This draws all the nourishment out of my border, which is under the wall, so that the task of trying to grow plants in a suburban back yard—called a garden by courtesy—which is never a very easy one, is rendered still more difficult. If there is one thing more certain than another it is that a house cannot be thoroughly wholesome to live in that has not plenty of light and fresh air. Most of the roads near this are planted with Lime trees on both sides at the edge of the footpaths, and are so near to the houses that the branches would touch them if they were not cut. The street lamps being planted in the same line as the trees are hardly of any use when the latter are in leaf, so with the street trees in front, and a row of Poplars at the back, as many houses have, what chance is there for air and light? However, the ordinary suburban resident, like Gallio of old, "Cares for none of these things," and never pulls up the blinds above half-way, and has a dwarf blind below it, or else covers the whole window with a muslin curtain, so that the microbes that cannot endure light and air "have a high old time." Trees, when allowed to grow naturally, are among the most beautiful things on this fair earth, but what can be said of them when they are

planted in positions in which they could not grow properly even if they had room, which they have not, and so have to be cut and clipped until they entirely lose their natural form. As "A. D." justly says, it is marvellous that "trees exist as they do," and I always pity them as I do a bird in a cage. The County Council authorities seem possessed with the idea that every young tree on our commons should grow in a pyramidal form, and trim them accordingly. When will such persons learn to leave Nature alone unless it be absolutely necessary to interfere? It is, of course, hopeless to wish that our commons should be left in their natural beauty, as in this athletic age level open spaces are so much wanted near London for cricket, football, &c. One feels sorry, but one cannot really wish it to be otherwise, as under the altered circumstances so much healthy pleasure is given to so many persons. But though the ground must be levelled, and the furze bushes removed, there is no reason why the trees should be disfigured.

Waulsworth.

G. S. SAUNDERS.

GRAPES APPLEY TOWERS AND LADY HUTT.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—My thanks are due to Mr. Crump for his courteous reference to my remarks about these Grapes, and also for his advice respecting the culture of the variety Madresfield Court. The cultural treatment recommended has, as Mr. Crump alludes to, been repeatedly advised, and is really that usually followed to prevent moisture condensing. It is almost needless to say that we should not have given up growing such an excellent Grape as Madresfield Court undoubtedly is when in good condition without first giving attention to this practice, especially as pointed out in my notes, our position is atmospherically moist, and to this I attribute our failure. We all know that under certain conditions a moist atmosphere will cause some fruits to split, and this Grape, as evidenced by the many enquiries that Mr. Crump gets respecting means to evade it, appears to be remarkably sensitive in this respect; so sensitive is it in fact that it is a question if external atmospheric conditions are not in themselves, in some cases, sufficient to promote cracking of the berries. This, too, in defiance, as it were, of reasonable inside treatment. If this is not so, it must be admitted that our management showed either ignorance or carelessness. The atmospheric conditions vary

as much with regard to moisture as to temperature, and often so narrow is the margin between cultural success and failure, that I venture to express the opinion in reference to the splitting of Madresfield Court Grape, that it is possible, owing to altered conditions, for the treatment proved to be successful in some cases and failure in others.

THOS. COOMBER.

The Hendre Gardens.

PRONUNCIATION OF PLANT NAMES.

WE have received two more communications from scholarly correspondents both well able to handle the subject of the pronunciation of plant names, especially with reference to that of *Gladiolus*. We thank our correspondents for taking up the subject in so full and interesting a manner, but we think that the discussion has gone beyond the scope of a horticultural journal, and enters too deeply into regions of etymology. Had we been less pressed for space we should gladly have printed these letters, for which we offer our thanks. But as we have on hand a large quantity of purely horticultural matter we feel bound to give the space to that in preference to the other.—Eds.

HARDY FRUITS IN SEASON.

PEAR KNIGHT'S MONARCH.—In including this superb Pear, which is of erratic behaviour, in my list of January and February fruits, I know that I am treading on tender ground, as many growers have discarded this variety on account of the difficulty experienced in the latter stages of its growth by reason of the fruit falling before it is properly developed and matured. That this is a practical and real grievance I know, and a grievance for which a successful remedy has not yet been found; but the variety when properly matured and ripened is so exceedingly rich and sweet in flavour that any extra care and labour expended on its culture is more than compensated, and its inclusion in the most select list justified. Generally speaking the variety succeeds best as a pyramid or bush in the open in the south; but here I must say our best results have been obtained from trees planted against a west wall. The fair amount of success we have obtained with this splendid late Pear I attribute to the fact of the copious

waterings and liberal mulching with short litter the trees receive during the hot and dry summer months, as well as to the judicious thinning of the fruit. Even with all the special precautions one may take a few fruits will drop prematurely; but these if received in a net previously hung at the base of the tree for the purpose of receiving any fruit which may fall, generally ripen well, and are in due time available for dessert. In this way this variety gives a succession of ripe fruit for certainly a matter of six weeks or two months. Great care and judgment are required in harvesting the fruits, as none must be gathered before they are actually ready to drop from the tree, hence the necessity for providing a net to receive any that may fall. It is best grown on the Pear stock, and while the trees are young, root pruning must be resorted to every two or three years for the first ten years, after this, continued moderate cropping will obviate, as a rule, any tendency to over luxuriance.

Doyenné d'Alençon.—To my mind this is the hardest, most prolific, and useful of all late Pears. It succeeds well as a bush or pyramid in the open quarter, and even as a standard in the orchard it gives excellent returns. It can be had in season from the end of January to the end of March. It is one of those varieties of late Pears the flavour of which is much improved by being subjected to a brisk moist heat for about twelve hours (such as prevails in a Cucumber house or Pine pit) before being served for dessert. The variety is of so free bearing a nature that to obtain fruits of good size and quality free thinning is necessary. It is best grown on the Quince stock for the garden and on the Pear stock for the orchard.

Beurré Rance is one of the oldest, best known, and largest of winter Pears. This year we have had fruits weighing nearly 1lb. each. It requires a south or south-west wall to bring it to perfection, and is in season from February to the middle of April. When well grown and fully ripe it is one of the most luscious and refreshing Pears I know, having a flavour of its own, quite unlike any other; the only fault that can be found with it is that the flesh is of a rather rough texture, and that its fruit occasionally cracks, but this only occurs on half starved and badly cultivated trees. In ordering trees from a nursery, double grafted ones should be asked for.

OWEN THOMAS.

EDITORS' TABLE.

TWIN-FLOWERED CYPRIPEDIUM CALLOSUM.

We have received a very fine twin-flowered spike of this *Cypripedium* from Messrs. Thyne and Paton, The Nurseries, Meric Moor, Downfield, near Dundee. This is unusual, and may interest our Orchid enthusiasts.

Kidderminster Horticultural Society.—In our note last week referring to this important Midland society, it was stated that Mr. H. J. Jones would give the next monthly lecture. This is not so; Mr. W. F. Cooling, Bath, will be the lecturer on March 13, and his subject, "The Best Roses for Bedding and Borders, and How to Grow Them."

The late Mrs. P. C. Veitch.—The funeral of the late Mrs. Veitch of Exeter, who died suddenly the previous Tuesday, took place on Monday last, in the presence of many relatives, friends, and employees of the firm.

Thornton Heath and District Horticultural Society.—It is gratifying to announce the formation of this society, whose object is furthering the interests of gardening and gardeners. Mr. J. P. H. Bewsher, Leighton House, 87, Parchmore Road, Thornton Heath, is the secretary.



PEAR DOYENNE D'ALENCON. (Shown on Tuesday last at the meeting of the R.H.S. Two-thirds natural size).

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MORE ABOUT OWN ROOT ROSES.

MR. MAWLEY, honorary secretary of the National Rose Society, sends the following notes concerning this important question: "I cannot think that the writer of the article on 'The Merits of Own Root Roses,' which appeared on page 89 of a recent issue of *THE GARDEN*, really considers that method of growing Roses superior to all others. His defence of it appears to me feeble and half-hearted. Probably he did not wish to be too hard on the man who 'buds,' and for this reason has not brought forward in the first instance his most telling arguments in favour of the proposal.

"He begins by promising own root Roses a long life. This must, of course, mean after they are once firmly established, because I have always understood that the infant mortality among Rose cuttings is something too awful to contemplate, particularly if all classes of Roses be included, viz., the rampant, the vigorous, the robust, the moderate, and the dwarf growers. Own root plants may be longer lived than budded ones, but surely Roses budded on the Briar are for all practical purposes sufficiently lasting, especially when we consider that most of the existing varieties will be out of date in, say, from ten to twenty years' time. I have now in my own garden a good many budded dwarf plants that are five and twenty years old, and yet to all appearance seem capable of living another quarter of a century.

"In the article in question the comparison instituted between the growth made by a single budded plant of *Coupe d'Hébé* and that made by another single plant of the same variety on its own roots strikes me as scarcely fair. Nor, again, is it much to the point to instance Mr. A. Herrington's successes with own root Roses under glass in America. For instance, what splendid blooms, and no doubt with equally long stems, could not we Britishers accomplish, were we only blessed with America's winter sunshine!

"There is, however, one remark with which all practical rosarians will agree, and that is where the writer says: 'I would urge all planters to exercise patience.' For it is this remark which strikes at the root of the whole question. It is quite true that a limited number of varieties will grow equally as well on their own roots as on the Briar, and some,

I dare say, even better—with patience. But, unfortunately, the past century has deprived us in a very great measure of that grand virtue of patience possessed in such a high degree by our forefathers. The modern Rose grower, sad to relate, appears to reason somewhat after this hasty fashion: 'Whatever is the use of my spending extra time, trouble, and expense in trying to grow Roses from cuttings, when I can obtain with greater certainty, more quickly, and, as a rule, better plants by budding; or when I can at a moderate cost purchase splendid plants of any variety I choose to name ready made from the Rose nurseries.' 'No,' he would add, 'life is not long enough for such fads.'

"Many attempts have been made from time to time to revive the cultivation of Roses on their own roots, but with limited and fleeting success. The fact is, that method of culture died a natural death about sixty years ago, when Thomas Rivers introduced the *Manetti* stock into this country—a stock now greatly superseded by our own native *Briars*.

"As regards the great majority of Roses, the only real advantage that own root Roses possess over the budded ones rests, in my opinion, in the fact that when the former do produce suckers, the suckers are those of the Rose and not of the Briar stock. But as the writer of the article implies, even this single disadvantage is reduced to a minimum if the stocks 'be carefully prepared and all eyes save two or three at the top removed.'"

HABIT.

HABIT in plants is like manner in people. It is that indefinable something which is inherent in individuals and which can never be acquired, for imitation of manner leads only to mannerism. Some of this manner of plants has passed into proverbs, and is a commonplace of literary illustration. There is the vaunting self-sufficiency of the Tulip, the modesty of the Violet, the treachery of the Rose with its alluring flower and concealed thorns, and so on. Poets and moralists are always using these figures. Of the three here quoted at random only the first can be strictly said to refer to manner. The modest person may be so retiring as to seem dull, if not cold; the treacherous one may be outwardly delightful; only the conceited one wears his conceit upon his sleeve.

So, contracting our field to that which relates more exclusively to that manner of growth of each plant which constitutes habit, let us first review our *Carnation* bed. Truth to tell, there is not one plant among them whose habit is impeccable. They have

all that awkward slouch, comment upon which was the torment of our youth. All want the help of sticks to keep them upright, but how much more attractive some are than others. Here is one with comparatively short joints, holding itself as well as a *Carnation* can hold itself; here is another with a bare length of stem near the root, and above a weak, spindly, mean stalk not equal to the burden of the flowers. And it is not a matter of cultivation. New plants raised from the stout variety will be stout; new kinds from the spindly kind spindly. What differences again in the ranks of the many-headed *Primroses*! How limply and inefficiently some hold themselves, how sturdily and strongly others! The cultured eye picks out, too, different forms of leaf, straight flatness in one, an indication to crimped curliness in another.

Among Roses, what is it that makes *Maréchal Niel* fall just short of perfection? Clean of leaf, charming in colour, perfect in scent, what does it lack?—the ability to hold up its head. This is why it is so much better grown as a rafter climber than in any other way. Have we not all suffered from its topsy-turviness when putting it into water? With some trouble it is got in and made to look up, when suddenly down bob the heads upon the table and up fly dripping stalks into the air. Compare with it that really noble *Rose Cloth of Gold*. What a magnificent stiffness, what length of spray, what independence of character, how splendid it looks in every position!

It is one of the great pleasures of gardening to encourage a good habit in plants to mark the sometimes small differences which they exhibit, and by selection mould them according to our individual fancy. Unhappily this very power of moulding has led to abuse, and some abnormal form has been seized upon, developed, and exaggerated. The plant has been made to acquire the habit of something else, and pleasant winning manner has been degraded to impertinent, irritating mannerism. To render a diffuse habit more compact is sometimes an advantage; to further contract it by dwarfing is a mistake. To add petals to a *Geranium* may enhance its attractiveness; to double it into an unmeaning shapeless ball is to produce a monstrosity.

In the training of plants great attention should be paid to habit. Nature must be seconded and helped, not thwarted. A *Deodar* has been seen in a villa garden with its head tied stiffly to a stick. The proprietor was resolved that his *Deodar's* head at least should not nod. The writer, if he had a villa garden, would not have a *Deodar* at all, but, if he did, it should grow as Nature intended; neither would he train his bushes with the shears so as to render Bay almost undistinguishable from *Portugal Laurel*. His few shrubs, carefully chosen, should be so arranged as to display to the best advantage the beauty that each possesses. He would sometimes, in the words of the great Augustan poet, marry a climber to

some other living mate, but so as not to destroy the character of either. That at least would be his aim, and his motto: "Study the habits of your plant, and let it show itself to the best advantage." W. J.

THE LOVE OF FLOWERS.

AMONG all the many branches of study which Nature affords for man's delectation, it is difficult to find one which is at once so full of marvel and beauty, and at the same time so open to enjoyment by unscientific minds, as that of floriculture. In the first place, plants of all kinds are devoid of those difficulties which present themselves to the students of the animal or insect kingdoms in their living forms. A garden, a frame or two, or a small conservatory will accommodate a far greater collection than anyone can exhaustively study without any of those accompanying fears of escapes or difficulties of maintenance which would certainly be a source of anxiety if an equal number of animals or insects were in question. Plants are passive subjects, and, given the comparatively simple conditions of suitable temperature, soil, and humidity, they pass through their life cycles with a minimum of trouble to the investigator, and at the same time afford far more opportunities for a deeper and more intimate study than can their more active competitors in other realms of life. We do not for one moment pretend that they are more marvellous or more beautiful—that is a different matter altogether; but we contend that their marvels and their beauty can be more easily appreciated, and it is precisely for that reason that floriculture and the love for flowers have scores of devotees for every one who confines himself or herself to the innumerable branches of zoology or entomology. For the same reason the love of flowers undoubtedly antedates all other natural cults. In their native beauty they appeal so eloquently to the mind that from time immemorial the poet has used them for his choicest similes.

If we stroll out into the country in the spring-time, while we catch but transient glimpses of birds, and but rarely view the wary animal life existent around us, however abundant it may be, no eye can miss the glowing beauty of the early flowers with which the earth is here and there literally clad. There the Primroses lie in glittering constellations amid their crinkled foliage, and yonder the nodding Scillas form a miniature heaven in the bosom of the woods starred, it may be, with the early Daffodils. Everywhere the redundant loveliness forces itself upon us, and the toddling child spontaneously feels the charm and loves to gather the beautiful blossoms for itself. Small wonder, then, that as our knowledge grows and we begin to learn that beneath that wild beauty there lie all the marvels of intimate relationship 'twixt bee and bloom, and the myriad wonderful contrivances which are correlated to secure the perpetuation of the species of which this resplendent glow represents, as it were, the honeymoon, so many of us become ardent flower-lovers ourselves and make our gardens the sanctuaries of our special favourites. Still less is the wonder as we learn how these comparatively humble wild flowers can repay us for special study and care by expanding into finer and finer types, until the simple five-petalled Rose becomes the Queen of all Flowers in a thousand varied types and tints and habits, while a mere weed like the wild Chrysanthemum, a common Daisy to outward seeming, brought from far distant lands, may, under culture, form the *raison d'être*

for a hundred big societies all over the world, and flood our gardens and conservatories with a myriad transcendent blooms at once gigantic and lovely and of extremely diverse and distinctive character.

In these happy later days of ours, when the whole globe has been brought into such close relations that the plants of all the world are practically at our call, the danger lies really in the direction of a surfeit, so abundant is the supply of flowers competing for a share of our affections. But, as against this, we should rank that elevation of taste in both judges and public who utilise this abundance of material in order to raise the standard of selection and perfection. Another danger lies in the direction of ignoring too much the simpler types of beauty such as survive in many cases in the wild flowers alone. Undoubtedly many flowers have been so elaborated as to lose all trace of that primary simplicity which is often the essence of their charm. Artificiality has superseded Nature wherever the natural habit of growth is utterly sacrificed to produce one or two huge blooms where Nature would have yielded scores of prettier though smaller ones. Fortunately, however, the large majority of flowers contrive to baffle these attempts at unnatural concentration and to retain their beauty despite their development into larger types.

CHARLES T. DRUERY, F.L.S., V.M.H.

NOTES OF THE WEEK.

Hidalgoa Wercklei.—This is a novelty which is sure to create considerable interest in the future. Very little appears to be known of the plant beyond the fact that it is described as a climbing Dahlia, and as such it is safe to predict a keen demand as soon as it is ready for distribution. This plant should prove a welcome addition to our not too long list of summer-flowering climbers, for it is suitable for covering arches, trellis-work, and bare and unsightly walls. Like other Dahlias, it is of quick growth, developing prettily-cut, small, palmate leaves, and bright, orange-scarlet blossoms, similar in form to the ordinary single Dahlia. A batch of plants was shown to us a few days since at Ryecroft Nursery by Mr. Jones. Its easy culture and quick growth, together with the brilliance of its display, stamp it as one of the most promising plants of its kind introduced for many years.—C. A. H.

Chrysanthemum Mrs. Greenfield.—From among the plethora of new and choice Japanese Chrysanthemums this plant stands out distinctly. It has been a matter of some surprise that this handsome sort was not awarded a first-class certificate on the only occasion when it was exhibited last autumn. It is said that it was regarded by some as being too much like Phœbus. Time will prove that a great mistake was made. Next season will see the blooms of this plant quite eclipsing the variety previously mentioned. As a matter of fact, the colour is a rich Buttercup yellow, midway between R. Hooper Pearson and Phœbus, and its florets are longer and broader than the last-named. It is not a plant of difficult culture, and, judging by young plants already to hand, it possesses a good constitution and vigorous root action.—C. A. H.

Glasgow International Exhibition.—The executive of the above invite foreign nations, states, and dependencies of Great Britain, and all whom it may concern, to furnish displays of their fruit products at the Fruit and Vegetable Show, to be held within the exhibition grounds, on Wednesday and Thursday, September 4 and 5, 1901. The grand autumn show for pot plants and cut flowers will be held on August 28 and 29. Both this and the fruit show are organised in association with the Glasgow and West of Scotland Horticultural Society. Arrangements have been made

with the Scottish Cold Storage and Ice Company, Limited, for the reception of exhibits that may require storage of this kind. Further particulars may be obtained of the secretary, Hugh A. Mackie, C.A., 55, Bath Street, Glasgow.

Best varieties of fruit in California.—From the Agricultural Experiment Station of the University of California we have received several interesting booklets on various subjects. We find therein that Duchesse d'Angoulême is found to be one of the best Pears, while Epine Dumas, Duchesse d'Orleans, and P. Barry also bear well. Epine Dumas is considered to be the best flavoured Pear in the orchard. In recent years some of the best European table Grapes at the above station have been Bowood Muscat, Black Morocco, Emperor, Gros Colmar, and Napoleon. This vineyard has seldom been injured by frost. One of the worst cases occurred on May 20, 1896, when eighteen varieties, newly planted that year, chiefly Americans, were frozen so that they did not start again. The crop of European Grapes was practically destroyed that season. The Logan Berry thrives exceedingly, and has been widely distributed from here.

The Banksian Roses under glass.—What a charming Rose the yellow Banksian is for conservatory planting. It should be given a conspicuous position, such as a wall, pillar, or arching the main walk. So rapid a grower needs much space to allow of its full beauty being seen, and especially should it be allowed to grow in its own way. The white Banksian, too, is to some even more precious, owing to its powerful Violet-like fragrance, but colour, especially yellow or golden, always claims more adherents than other points of excellence. Doubtless the baking the growths received last summer is responsible for the more than usually free blossoming this season. There never need be any fear, however, as to these two beautiful Roses failing to flower when grown indoors if attention be afforded them immediately after flowering. This would consist in cutting out the extra vigorous sappy growths and removing a few others where too crowded. New wood of a wiry nature must be encouraged, but on no account prune back hard as one would a *Maréchal Niel*, or there will be no flowers. These Banksian Roses flower upon the tiniest growths imaginable, so that it is necessary not to overcrowd the growths. Where planted out under glass it is as well to fork up the border about the base of the plant, say 2 feet away. I prefer to remove some of the soil and replace it with well-decayed cow manure and a handful of wood ashes; then cover over with soil, give a good soaking of water at intervals, and during the summer months the syringe must be freely used to keep down red spider.—P.

Three interesting Coptis species.—Among other interesting plants now flowering in the rock garden at Kew are three species belonging to the above genus. They are all dwarf-tufted perennials, preferring a moist and rather shady position for their full development. Though not belonging to the showy section of the vegetable kingdom, there is something attractive about their white star-like flowers, which, added to their earliness, entitles them to a place in the spring garden. *C. occidentalis* is a North American species, found growing in mountain woods. Like the following species it is an evergreen perennial, with trifoliate leaves on long petioles. The flowers are white, and borne three to four together on leafless stems, 4 inches to 6 inches high. *C. orientalis* is somewhat similar to the above, but has the leaflets more deeply sub-divided, while the flowers have a chocolate-brown centre. The stem also, which bears three to five flowers, is coloured a rich chocolate. *C. brachypetala*, like *C. orientalis*, is a native of Japan, but, unlike the other two, it is not evergreen. The leaflets are deeply sub-divided, while the flowers are pure ivory white in colour. Probably the best known member of this genus is *Gold Thread* (*C. trifolia*), a native of peat bogs and swamps in the colder parts of the northern hemisphere. This, however, is a later flowering species, not blooming till April or May.—W. IRVING.

Zephyranthes candida.—I have read with interest "W. W.'s" account of the above plant, and quite agree with all that he has to say about it. We have it planted here in front of a range of houses facing south, and with it we have the beautiful *Belladonna Lily*; and how well they go together, for when the foliage of the *Belladonna* dies down and sends up its noble flowers far above the *Zephyranthes*, the lovely green foliage and white star-like flowers of the latter form a most effective and lasting floral carpet, and, as "W. W." says, it does indeed increase very rapidly. We use the little white flowers mixed with *Myosotis palustris* for house decoration, and in this way they are very pretty and last fairly well. I notice that Canon Ellacombe takes a very different view of this pretty little flower (page 123), but he does not say where he has planted it, whether in a dry or a damp place. Perhaps he has not well watered it during the summer. If this is the case one can hardly wonder at its failure: If Canon Ellacombe plants his bulbs in a southern aspect in ordinary garden soil and sees that they have occasional watering in the summer I cannot but think he will have good results, and eventually give a very different account of this beautiful little *Lily*.—JOHN H. GEAL, *Milton Court Gardens, Dorking.*

The proposed National Sweet Pea Society.—A meeting will be held at Winchester House, Old Broad Street, E.C., Room 21, on Tuesday next, at 5.30 p.m., with the view of forming a National Sweet Pea Society. The chair will be taken by Mr. N. Sherwood. Anyone interested but unable to attend should communicate with the hon. sec. (pro tem.), C. E. Wilkins, 19, Lyndhurst Road, London, S.E.

"I have received a circular signed by Charles E. Wilkins advising me that a meeting will be held in the City on Tuesday next, with a view of forming a National Sweet Pea Society, and the reason assigned for this course is 'that the labours of the bicentenary committee should not be lost.' What is meant by this? There is no fear whatever of the labours of the bicentenary committee being lost. At the present time the executive committee are putting through the Press a full report of the proceedings of the celebration, and thus a permanent record of them will be handed down. The executive committee having published its report will then lay it before the general committee, and that body will have to determine whether the committee shall be continued in some permanent form or whether it shall dissolve. Seeing, therefore, that the bicentenary committee has not yet completed its labours, it seems premature to propose to form a National Sweet Pea Society while this truly National committee is still in existence and quite capable of taking care that its labours are not lost.—RICHARD DEAN, *Hon. Sec. to the Sweet Pea Bicentenary Celebration.*"

Apple Barnack Beauty.—This showy Apple was staged at a recent meeting of the Royal Horticultural Society by the Messrs. Brown, of Peterborough, and its splendid colour was much admired, whilst the fruits were of good quality, too. This variety received an award as a market Apple a short time ago, and doubtless it will prove invaluable for this purpose, but I feel sure it will not be despised by private growers when its good qualities are better known. We have very few good looking Apples at this date, equal at any rate in appearance to Barnack Beauty. It cannot in any way be compared to Cox's Orange—but how many private growers have Cox's Orange in March?—and a few dishes of the above would be welcome, as it keeps sound well into the spring. If I mistake not this variety was raised by the late Mr. Gilbert, of Burghley, and he showed some beautiful fruits of it at the Apple Congress at Chiswick in 1883.—G. WYTHES.

Apples grown in London.—The Apples grown in what may be termed the Metropolitan area, staged by Mr. W. Roupell at a recent meeting of the Royal Horticultural Society, were most interesting. The exhibit proved that these fruits will thrive in a smoke-laden atmosphere; indeed, not only thrive, but colour well also. Mr. Roupell's

garden may be placed in a favoured spot to others, but quite recently I saw an old Blenheim Orange tree that gave fine fruits; it was on a lawn and far nearer Charing Cross than Mr. Roupell's garden. Doubtless there are other instances of successful culture, and in my opinion much of the success is due to the trees being deciduous, as losing the foliage early in the autumn the wood is cleansed by winter rains and frosts, and they are able to hold their own. Mr. Roupell has on many occasions staged very good fruits and received awards. The fruit of Cox's Orange Pippin were excellent. We have seen larger, but not better in colour or quality. Another variety staged was the Melon Apple. This is highly thought of by the grower as one of the best town garden Apples, and one that fruits well in most seasons; the fruits were large, handsome, and of good quality.—G. W.

Apple Court Pendu Plat.—This valuable dessert Apple was one of the features of a recent meeting of the Royal Horticultural Society, not so much with regard to quantities of fruit exhibited, but those sent illustrated the value of this variety for late use. As a dessert Apple it is most valuable on account of its lateness, though I do not think large dessert Apples are good keepers; neither are they needed for the table. Fruits of the size of Cox's Orange are large enough for dessert. This is a distinct fruit, being of a flatter build than many, with a very firm flesh, and is of excellent flavour. With cool storage there is no difficulty in keeping it well into May, its season beginning in December. Few varieties bloom so late, and on that account the fruits are often more plentiful, as earlier kinds suffer from late frost. It is one of the best dwarf or bush kinds, as it is of compact growth, which makes it more valuable where space is limited. In different parts of the country it is known under various names, but it varies little in size or shape, and is readily known by its peculiar stalk and somewhat flat form.—G. W.

Iris tingitana in Portugal.—In THE GARDEN of February 9, I observe that your correspondent "C. W. D." finds a difficulty in flowering *Iris tingitana*. Here it does admirably, the bulbs sometimes attaining a large size, nearly as large as one's fist. I grow this plant in a well-drained, sandy loam, in a raised bed exposed to full sun, so that the bulbs may become perfectly ripened in summer. The plants also do well and flower in pots; these to be kept dry on a shelf in summer. Here the *Iris* flowers from January to March. I have raised a quantity of plants from seed.—BARON DE SOUTELLINHO, *Oporto, Portugal.*

W. A. Richardson Rose in a cold pit.—This charming Rose has one great defect, as many individuals are only too familiar with, and that is the want of colour in its buds. It is strange that in some gardens it can always be seen with that intense orange yellow we know so well, whereas in others the colour, or want of it, is deplorable. Now I have never found these pale-coloured flowers during the early months of the year. Is this owing to less sunlight or the artificial heat? In my opinion it is the former circumstance, for in almost a cold house this Rose has produced buds of perfect colour and form. Now I would advise anyone to grow a few plants in a cold pit. But how can this be accomplished with a climbing Rose? My answer is, by using plants having long rods. Any nurseryman would supply plants in 8-inch pots with growths some 6 feet to 8 feet long. Place such plants in the pit and bring down the growths so that they are secured in a horizontal position trained upon some bamboo canes, and quantities of useful coat flowers will be obtainable during April and May. In many gardens cold pits are always available early in the spring, and, if not, a temporary structure formed with turfs or boards—having, of course, glass lights on top—would suffice. These plants when received should be top-dressed. Remove an inch or two of the surface soil. Sprinkle a little Ichthemic guano on, and then replace the soil removed with some loam and well-rotted manure in equal parts. When the growths are about 1 inch in length the plants must receive a good soaking with water, and after this keep the soil

neither too wet nor too dry. It would be advisable to plunge the pots in coal ashes up to the rim. A little air should also be left on at night, and a liberal amount given by day. If this be done regularly the young growth will become so inured to it that no mildew should be seen. After flowering cut the plants down to within three or four eyes of the top of the pot, and place the plants in a vinery or stove where they can receive plenty of heat and moisture. When the new growths have grown an inch or two the plants should be repotted; they will then by October make rods from 8 feet to 10 feet long, and will be serviceable for another year or two if similarly treated each season.—P.

Plants from the Botanic Gardens, Cambridge.—Mr. R. Irwin Lynch contributed the following interesting plants and notes, for which a unanimous vote of thanks was recorded, to a recent meeting of the scientific committee of the Royal Horticultural Society: *Iris histrioides*—This species is not recorded in Sir M. Foster's book, and is probably of more recent introduction. *Iris stylosa*—A narrow form of this species, Mr. Elwes observed, was introduced by him in 1874 as *I. cretensis*, allied to *I. unguicularis*, exhibited by Mr. Bowles. *Galanthus Erithraeus*—Not mentioned by Mr. Baker. *Hyacinthus ciliatus (azureus)*. *Narcissus Trimon*—Sir M. Foster's hybrid, between *N. triandrus* and *N. monophyllus*; it is the earliest of all in flowering this year; the preceding are flowering out of doors. *Cyrtanthus lutescens* was also exhibited. *Urceocharis Clibrani*—This is a bigener between *Eucharis grandiflora* and *Urceolina pendula*. *Dioscorea sativa*—This bears tubers (one of which was sent) at every joint for a length of 40 feet; the tuber, which was globular, would send out a shoot 3 feet or 4 feet or more in length if kept indoors. *Kola acuminata*—A flowering shoot of this tree which bears the *Kola* nut; the calyx is orange coloured, the corolla is wanting, and the leaves are dimorphic, like that of the fig, &c. *Aloe sp. nov.*—This is said to agree with specimens collected in Somaliland; it was taken to the Natural History Museum for identification. *Heterotoma lobelioides*—The bird plant of Mexico; the flower is remarkable for the receptacular tube extending as a beak in front, carrying two small sepals at the extremity, and the tubular corolla adherent to it throughout. *Cornus Mas*—Flowering from the middle to the end of January, even on to March. *Hamamelis virginiana*—Wych Hazel; the nut is eaten in Virginia, and is regarded as a valuable medicine there. *Hardenbergia comp-toniana*—A very pretty climber for a greenhouse. *Siphocampylus lanceolatus*—A quite uncommon plant. *Distichanthus scarlatus*—A brilliant bromeliad. *Crocus Imperati*, *Chrysanthus*, and *Sieberi*—Winter-flowering species, now nearly over.

Rose Mme. Ravary (H. T.).—This excellent golden-yellow Rose promises to be of much usefulness, not merely for bedding, but also in the forcing house. The flower is not very double—in fact, little more than semi-double, but the exquisite rich golden-yellow buds, borne on such fine stiff stems, will make it a popular favourite. I sincerely hope Mons. Pernet-Ducher and other hybridists will continue to give us this type of Rose in all the beautiful tints of yellow, such as sulphur, lemon, orange, gamboge, &c. If it were possible, as seems likely, that a strain of dwarf yellow Roses could be evolved from those which are extra vigorous, and which now predominate, they would be a real gain to our gardens. The few good yellows found among the dwarf Teas are, unfortunately, not hardy, at least several of them, such as *Perle des Jardins*, *Souvenir de Mme. Levet*, &c. On the other hand, I believe these Hybrid Teas to be almost hardy, although there is a disposition on the part of some individuals to deny it. Such Roses as *Mme. Cadeau Ramey*, *Clara Watson*, *Gustave Regis*, and *Antoine Rivoire* appear to have passed through the recent ordeal unharmed. I am not sure what they would do when subjected to two or three zero frosts, but then even many of our boasted hardy Hybrid Perpetuals suffered almost as much as the Teas during the severe weather of a few years ago.—P.

Acalypha sanderiana.—For giving colour to the stove at any time of year this plant has few equals, and the ease with which it can be propagated and grown makes it a grand plant for amateurs. The spikes are crimson and drooping, and often attain a great length. As soon as they are past their best they should be removed, and new ones will soon develop in their places. Cuttings may be put in at any time during spring and summer, but February and March are the best months. Insert them either singly in 2½-inch pots, or several together in 3-inch pots. In any case, light sandy loam should be used, and the pots kept close in the propagating pit. When rooted pot on, using a compost consisting of fibrous loam, leaf-mould, well-decayed manure, and a little silver sand. Useful specimens can be grown in 6-inch pots, but where large ones are wanted 10-inch or larger must be employed, taking care that the drainage is good. The plants soon suffer if allowed to get dry, the roots being very fleshy. Weak liquid manure twice a week, when the pots are full of roots, will help to keep them in health. The red spider is very partial to this *Acalypha*, and attacks the undersides of the leaves. Syringing the plants regularly will check it, but stop syringing as soon as flowering begins, when the leaves should be sponged with clean water, or, if there is any sign of the pest, a solution of some good insecticide. Gishurst compound is good, and may be used at the rate of 2oz. to a gallon of water.—F. B. BRICE, *Goathurst, Bridgwater.*

Apple Gravenstein.—It seems a pity that fruits of inferior quality are often planted to the exclusion of others that are so much better. This is especially the case with Apples. We have none too many good second early Apples, and so before the end of the planting season I should like to draw attention to the merits of Gravenstein, which is in splendid condition from the end of September until the middle of November; indeed, during that time it is not easy to find a better Apple, combining, as it does, size, good appearance (it is an ideal exhibition fruit), and excellent quality. After praising it very highly, Dr. Hogg says of it: "This beautiful and excellent Apple is comparatively but little known, otherwise it would be now generally cultivated." I have had no experience with it in bush, pyramid, or espalier form, but old standards give yearly a fair crop.—E. BURRELL.

Pear Duc de Nemours.—This is a comparatively little known Pear, of large size, and excellent quality. It ripens from the end of November onwards and through part of December, often filling a gap between the mid-season and late fruits. It is a handsome Pear, a pale yellow skin throughout, which is covered with brown or russet spots. A very taking fruit on the show table, and much appreciated for dessert. From the size of the one or two trees that I have seen the variety must have been in the country over fifty years. My solitary tree is, unfortunately, on a north-east aspect, where the flowers are invariably badly cut by late frosts. The best samples I have seen came from Pain's Hill, where the tree is growing in a low-lying old-world kitchen garden.—L.

Outdoor Grapes in 1900.—The season of 1900 was a very good one for outdoor Grapes. From an old Sweetwater that covers about 300 square feet of wall we had a little over three bushels of very fair fruit, many of the bunches weighing over 1lb. Much has been written as to the advisability or not of a more extensive culture of outdoor Grapes, and the truth seems to lie between the two extremes. As a matter of fact, they are practically valueless in places where there is sufficient glass to give a regular supply, but in the cottage and villa garden they furnish a change as fruit diet and make excellent wine. As a little extra attention is necessary to produce the best results, the following cultural notes may be interesting: Allow about 2 feet between the branches, which can be secured to the wall with stout tan twine. In pruning cut away all small weakly growth, and cut back the stronger shoots to one or two eyes. Loosen the branches from the wall some time during the winter, and run the hand along them to remove loose bark and insects. If

red spider shows itself with the advent of warm weather, give a heavy syringing with a solution of soft soap and paraffin. Disbud and stop shoots and laterals, as in the case of indoor vines. All berries may remain on bunches that are to be used in wine making, but those required should be thinned if time permits. Net a little before the fruit begins to ripen to prevent birds taking the fruit. Keep a sharp look out for mildew, and dust with sulphur if it makes its appearance. I should say Sweetwater is the best all-round outdoor Grape. Mr. Will Tayler grows a variety known as Reine Olga very well on his house at Hampton, but I have not as yet been able to ripen it satisfactorily here. I shall try it this season with considerably more room between the shoots.—E. BURRELL, *Claremont, Surrey.*

Chorozema varium.—The Australian Flora is very rich in leguminous plants suitable for greenhouse culture in this country, and among the many genera *Chorozema* is conspicuous on account of its general usefulness and beauty. The species under notice has been in cultivation for nearly a century, but like many other good old things it is not now grown to such an extent as its good qualities warrant. In habit it forms a loose bush, with long, thin branches sparingly clothed with Holly-like leaves, the largest of which are barely 2 inches long. The flowers are small and bright red, with a yellow blotch at the base of the upper petal. They are borne in long, loose, terminal racemes, both from the main branches and all side branches. The flowering season is midwinter, and the plants keep in good condition for quite three months. After flowering the plants should be cut back and kept close until growth recommences, after which they should be given as much light and air as possible throughout summer and autumn. At Kew a fine plant 4 feet high and 3 feet through has been in full flower in the greenhouse since Christmas, and bids fair to keep in good condition for several weeks to come. Sandy peat and firm potting are the necessary items towards its successful cultivation, and the stock may be increased either by means of seeds or cuttings. *C. Chandleri* and *C. lawrenceanum* are synonyms of this plant.—W. DALLMORE.

Hamamelis arborea.—This quaintly flowered but attractive shrub is now in full bloom, and presents a striking appearance with even the smallest shoots thickly set and its curious blossoms, the narrow petals of which look like rolls of ribbon before they expand, while when fully open they have the appearance of twisted strips of gold leaf about three-quarters of an inch in length, each flower being composed of four petals, which contrast pleasingly with the crimson sepals. This *Hamamelis*, which goes by the name of the Japanese Witch Hazel, grows in its native country to a height of 20 feet and is perfectly hardy, while its flowers possess the desirable quality of enduring from 10° to 15° of frost without injury. Though introduced into this country nearly forty years ago the shrub is still rare in gardens, owing to the difficulty experienced in propagating it. It is a desirable addition to our few winter-flowering shrubs, and is worthily used in the Royal Gardens at Kew.

The Winter Sweet.

—Mr. E. Burrell's note on this delightfully fragrant winter-blooming shrub leads me to draw attention to the infinitely more decorative effect produced by it when grown in the open ground in its natural form than when trained against a wall.

Doubtless in the colder districts of this country wall protection is a necessity, but in the south-west it is, happily, needless, and many are the fine specimens that may be found growing on lawns and in open spaces of the gardens. Again and again, in notes eulogising its gift of perfume, its ornamental qualities are depreciated, and it must be admitted that when trained to a wall its pale yellow flowers are inconspicuous, but when grown in bush form in the open, and backed by evergreens, the blossoms that thickly stud its leafless shoots are thrown into high relief by their dark setting, and present an attractive if not a striking picture. Within the past few days I have seen a bushy shrub, about 8 feet in height and as much in diameter, growing in such a situation, and was much struck with its unpretentious beauty. This shrub was the ordinary form of *Chimonanthus fragrans*, but the same garden contained a specimen of the variety *grandiflorus*, which, originally planted against a wall, had formed a small, bushy tree some 15 feet in height that overtopped the coping-stones by many feet. It has been stated that the fragrance emitted by flowers of the variety *grandiflorus* is inferior to that given off by blossoms of the type, but I failed to detect any difference in the odour of the two from the plucked blooms, while in both cases the perfume could be appreciated in the still air at a distance of several feet. The first flowers of the Winter Sweet usually expand a fortnight or so before Christmas, and blossoms retain their beauty and freshness through the whole of January and well into February. The frost had seared the foliage of large shrubs of *Aloysia citriodora*, the so-called Scented Verbena, and *Ceanothus Gloire de Versailles* growing hard by the specimen first referred to in this note, but its blossoms remained uninjured. In the depth of winter odorous shrubs, such as the *Chimonanthus*, *Lonicera fragrantissima*, and *L. Standishi* are particularly valuable, not only for their scent in the open air, but for the flower-sprays they afford for perfuming the living rooms of the house.—S. W. FITZHERBERT.

Standard Marguerites.—Few plants give us such a long season of flowers as does the Marguerite. We have it in the greenhouse during dull winter months, when flowers of any kind are welcome, and it is again in evidence in window-boxes in early summer. When grown as a standard it is nearly always at its best in the autumn, and it may often be seen untouched by frost at the end of November. To form standards rooted cuttings should be potted up now in some good rich soil,



ODONTOGLOSSUM LOOCHISTYENSE COUNDONENSE.

and be grown in an intermediate temperature. They should not be allowed to become pot-bound until they have reached the required height, or flowers will appear prematurely, thus rendering them useless for standards. They are extremely well adapted to this treatment. Last year we had some grand specimens measuring 5 feet across, and, clothed with their beautiful white and yellow blossoms, they make charming plants for the centre of a bed, and look equally as well if given a prominent position in the herbaceous border.—E. H.

Rhus vernicifera.—A note from Hong Kong.—My head man, of course a Chinaman, a few days ago made his appearance with his head about twice its normal size, and with his face and neck of a very beautiful pink shade in addition. On enquiring of him the reason for this sudden change in his appearance, he replied that he had just bought a new pillow from Canton. This did not enlighten me much on the subject, so I asked him what the pillow had to do with it. To this enquiry he said that he had slept on it the previous night. I told him that I understood that pillows were generally used for that purpose, but that I failed to see the connection between the pillow and his enlarged features. In reply he volunteered the statement that the change had been brought about by the material used for varnishing the pillow. I then enquired for the Chinese name of the varnish, and on receiving that information I had no hesitation in coming to the conclusion that the man's pillow had been covered with Chinese lacquer obtained from *Rhus vernicifera*. I was still surprised that he should have used such a pillow, and asked him if he did not know the poisonous nature of the lacquer, to which he replied that he was fully aware of its qualities and of the way it affected people. On remonstrating with him for using it he answered me in the most philosophical way imaginable, that he did not mind, that the effects only lasted two or three days, and what were two or three days' suffering and inconvenience compared with the possession of a fine lacquered pillow, which reminds one of the schoolboy who played truant and received a thrashing from the master the next day, and who, on being chaffed by his mates, replied: "What is a five minutes' thrashing compared with an afternoon's pleasure?" Perhaps it will be just as well to mention that a Chinese pillow is a very different thing from the European article. It is merely an oblong block of wood, and an empty cigar box makes a first-rate pillow for a Chinaman.—W. J. TUTCHER, *Botanic Gardens, Hong Kong.*

NEW ORCHIDS.

ODONTOGLOSSUM LOOCHRISTYENSE ROCHFORDIANUM.

A NOTE of mine was published in THE GARDEN some three years ago respecting a plant which was sold in Messrs. Protheroe and Morris's rooms, the characteristics of which led me to think that it was undoubtedly a natural hybrid between *Odontoglossum crispum* and *O. triumphans*. In every respect the plant then referred to appeared to be a glorified *O. excellens* with the lip of *O. crispum* instead of the usual *O. Pescatorei*. This note was severely criticised, and I was told how utterly impossible it was for such a cross to take place, the plants growing so many miles apart. Since that time garden hybrids have been raised on the continent from the intercrossing of these very species, with the result that proved the suggestion of the existence of natural hybrids to have been a perfectly correct one. Since the first plant exhibited by Mr. W. Thompson, of Stone, Staffordshire, as *O. loochristyense* "Canary Bird," on November 21, 1899, many fine varieties have been exhibited and received awards at the Royal Horticultural Society's meetings. Every one of them, as far as my memory goes, have appeared among importations of *O. crispum*, proving, if proof be

necessary, that these species grow together in some localities. About twenty years ago my lamented friend, the late David Burk, who had then just returned from collecting *Odontoglossums* for Messrs. J. Veitch and Sons, assured me that in some localities the different species grew intermixed, and the only reason he could give me when I suggested a possibility of natural hybrids was that the various species flowered at different seasons of the year, and it was, therefore, impossible for insect cross-fertilisation to occur. There can be no doubt that in their native habitats, as well as under artificial culture, the plants from some cause flower out of season, and no doubt provide opportunities which result in the production of natural hybrids.

One of the finest varieties of *O. loochristyense* I have seen was exhibited at the Royal Horticultural Society's meeting on February 12, and forms the subject of the accompanying illustration. *O. l. rochfordianum* is a remarkable kind, the flowers $3\frac{1}{2}$ inches in diameter and the ground colour of the sepals golden yellow, becoming lighter at the base. In the central area of each there is a large chocolate-brown blotch, the basal area being thickly spotted and marbled with the same colour. The outer edges of the petals have many irregular protuberances, the apical half and outer margins golden yellow, the central and basal area white covered with numerous chocolate-brown markings. The front lobe and outer margins of the lip are white, with a faint shade of yellow in front of the deep brown spot in the centre, yellow at the base, the crest lined and spotted with deep brown. The general characteristics of the lip are those of *O. crispum*. It received a first-class certificate from the Orchid committee. Exhibited by Mr. T. Rochford, Turnford Hall, Broxbourne, by whom it was imported.

O. L. COUNDONENSE.

THE flower of this differs in shape and lacks the substance and markings of the last-named kind; it carried an enormous spike of flowers and buds. The flower is 4 inches in diameter; the sepals deep yellow, with three regular blotches of chocolate-brown; the petals lighter than the sepals, much crested on the margins with large brown spots in the central area, and numerous smaller ones at the base. The lip is flatter than in the last-mentioned kind, white on the front and outer margins, yellow on the disc with a large blotch of brown in the centre, and some smaller ones on the disc. On the upper margins there are numerous miniature brown spots and lines of the same colour at the base. It is a desirable addition, and received an award of merit from the Orchid committee. The plant came from Mr. G. Singer, Coundon Court, Coventry.—H. J. CHAPMAN.

AMATEURS' PERPLEXITIES.

WORN-OUT FRUIT TREES.

PLEASE advise me as to the best mode of treating my fruit trees? I have a large number of old Pear trees (pyramids) in my garden; they bore good crops of fruit last year, and have abundance of fruit buds now; they were much covered with lichen, and the branches green. I have had them washed and painted from stem to bud with a mixture of lime and sulphur; but last year the fruit of several of these trees was of little use, and greatly disfigured by black round patches which formed on the skin and spread



ODONTOGLOSSUM LOOCHRISTYENSE ROCHFORDIANUM.

inwards and caused them to rot—not ordinary decay; some of these would decay in three or four patches on one fruit. Easter Beurré, Beurré Bachelier, Nouvelle Fulvie, and Olivier des Serres being particularly badly affected. Is this the "Pear Fungus?" Should the trees be sprayed with some solution in the spring, and if so, what is the best preparation to use, and what strength should it be? Will more than one spraying be required? I may add I have spread a quantity of wood ashes round the tree, and given them a good dressing of manure. B.

[We fear the trees described are past recovery, and not worth the labour bestowed upon them. We admit every one is anxious to keep trees as long as possible, but there is no advantage in doing so if beyond chance of restoration. We do not say that old trees cannot be made fruitful. So much depends upon the soil and condition of the roots, and evidently in this case there is something wrong in addition to the trees being old. Although they bore good crops, we presume the fruit was inferior and small. Spraying will not help this, and we think the roots are at fault, and that the land is in need of drainage, the roots having probably gone down into the clay or wet land. This would cause the decay or black patches, and we have come to this conclusion, as you say your trees were well dressed and showed plenty of fruit buds. It is when the trees are perfecting their fruits that the mischief is caused. In the case of younger trees these would be good remedies, such as root pruning, lifting, and draining. We presume that your trees are too old for this remedy to be carried out with any degree of success. We have seen large trees treated thus by spreading the work over three years, and draining the land at the same time; but this entails considerable labour. Such kind as Easter Beurré often fail, and the same remark applies to Nouvelle Fulvie, which likes a warm, well drained soil. On the other hand, Beurré Bachelier is not a poor grower, but it is not a valuable variety, the fruit is of poor quality, but this tree failing proves there is something wrong at the roots. The presence of lichen also points to excessive dampness, either of site or deficient drainage. You have done your best to counteract the evil referred to by using lime and sulphur, but this only partially affects the growth of the trees. You ask if further spraying would be beneficial. We think not, but as you wish for the name of a good wash we do not think the Bordeaux mixture can be beaten. This consists of sulphate of copper,

10 ounces of which should be dissolved in a little boiling water. To this add 5 gallons of water, and slake 6 ounces of lime in water. When cool pour it into the solution of copper, and stir all well together. Be careful not to exceed the quantity of sulphate, but use it rather weaker than otherwise for tender foliage. We have great faith in young trees in preference to old ones, and would advise replanting as it is not late. Thoroughly prepare the soil, and especially if you plant where older trees formerly stood, but this should be avoided if possible. In planting new trees, drain thoroughly, and in your case it would be advisable to place a good quantity of anything porous, or that drains thoroughly, such as old brick rubble, burnt ballast, limestone, or chalk, and to give new soil for the roots of the young trees.—Eds.]

COB NUTS.

COULD you give an article in your paper describing the treatment and management of Cob Nuts? I have the last four years' volumes of THE GARDEN (three years' bound), and on referring to them find the treatment of Nuts scarcely mentioned. I have here about half an acre planted with Cob Nuts, some six or seven years old; they have been neglected by the previous tenant. I have removed the numerous suckers that crowded the bushes. There is an abundance of catkins and female buds on the bushes.

Pembury Court, Kent.

B. ADDY.

[We are pleased to give you a few cultural details about Cob Nuts, and, though the culture is simple, if the trees are neglected they soon run wild and bear irregular crops, whereas given attention they are most profitable and rarely fail to bear well.

The Cob Nut is splendidly grown in Kent, and is one of the best paying crops where there is systematic culture. The best results we have seen were from trees closely pruned, and if you could see some trees grown thus in your district you would more clearly understand what is meant by close pruning. You say your trees have produced a lot of suckers, and you have done well to remove them, but you do not tell us what shape your trees are—if on single stems or otherwise. We will take the former first. Proceed cautiously at first, as the trees if severely pruned now would throw up a forest of suckers. This must be avoided. Thin out cross branches and allow more light to the centre of the trees, and you could shorten back very long shoots. Then next year prune more freely, as during the ensuing season the trees will make spur growths from these spurs. Next year you will get fruit and be able to shape the trees. This relates to closely pruned Cobs on the Kentish system. Where trees are grown from the start—we mean close pruned—they assume the form of a bush Apple, but with, say, a dozen branches or leaders. These are not allowed to make side or lateral growth, but close pruned, and they form a forest of spurs all up the branches. From these catkins show freely, and the fruits are produced in quantities. From this it will be seen that the trees are on a short leg or stem with nine to twelve main shoots or branches radiating from the stem at a certain distance from the soil. The exact distance is immaterial as regards length of stem, but there is a gain in having sufficient stem to allow of the land being kept free of weeds and food to be given in the shape of surface-dressings. The head of the bush or tree is thus in the form of a basin, the centre being taken out and thus kept open, and the side growths closely pruned. In many Nut orchards the trees are far enough apart to allow ample sun and light to reach the growths, and in others small crops are grown between the rows of trees, mostly Strawberries. The land is well manured, also the surface-soil under the trees, no sucker growth being allowed. We now come to trees given what may be termed ordinary culture. In many cases the trees have a number of leaders or stems, and even then it is well to keep quite clear of sucker growth. In some instances it may be necessary to get new leaders, cutting away older ones, but it is surprising how freely the old growths yield if hard pruned so as to form

spurs and the branches are not crowded. A good cultivator once told us he always allowed a new shoot here and there to mature and cut out an old one. He found that this checked sucker growth, and he got finer produce from the newer wood when topped. Many bushes are allowed to grow as they please, but the Nut produces so much wood and sucker growth that there must be a certain amount of light to obtain regular crops. Never attempt close pruning in the case of trees that have run wild for years, or this would end in failure again. Some kinds are not suitable; for instance, the true Kent Filbert will not stand the same treatment as the Kentish Cob. Some of the Filberts and Cobs also do not produce catkins freely (male), and it is necessary to plant those that do so in close proximity. This latter remark does not apply to the Kentish Cob, as few kinds bear better under various ways of culture. This variety will even succeed well in very poor soil where other fruit trees would have failed. The same remark applies to the Cosford variety, a roundish Nut with a very thin shell; it bears freely as a standard or bush, with a stem or leg. Plant trees from layers, as these are more fruitful and less subject to sucker growth. Trees raised from seed are not always trustworthy. Some kinds make handsome standard trees—that is, if a good length of clear stem is allowed, say, 5 feet to 6 feet. These trees are most useful in gardens where only a few can be grown or by the side of walks, as, pruned yearly, they make handsome specimens. Webb's Prize Cob makes a fine garden tree grown thus, also the Kentish Cob advised above and the Cosford variety. Such trees are grown so readily and at such a small cost that we are surprised they are so seldom seen in our gardens. On the other hand, the Nut tree left to chance soon grows anyhow.—Eds.]

MISCELLANEOUS.

SWEET PEAS FOR POTS.

SWEET Peas are much more amenable to pot culture than might generally be supposed, and give very little trouble, while they keep up a bright display for a considerable period, and may be grown in pots by those who have little or no convenience for growing them in the garden. Varieties are now so numerous that it is difficult in making a selection to include all that are worthy of recommendation, but for those who would like to confine themselves to a dozen varieties the following will be found to be a good selection, viz.: Sadie Burpee, white; Lovely, pale flesh pink; Oriental, orange scarlet; Stanley, deep purple maroon; Mars, bright scarlet; Earliest of All, rose standard light wings; Queen Victoria, primrose; Lady Grisell Hamilton, pale blue or mauve; Gorgeous, scarlet with a salmon shade; Mme. Carnot, deep blue; Princess May, soft mauve; Triumph, rose pink, shaded white; and Duchess of York, white ground standard shaded with pink. The seeds may be sown any time till the end of February, about seven or eight in a 5-inch pot. Good loam with a liberal addition of manure may be used, and it should be pressed moderately firm. The seeds should be well covered with the soil. After sowing the pots may be placed in any light open position in a frame or cool greenhouse; care must be taken that there are no mice about. After the seeds begin to germinate, light and air, with a moderate supply of water, is all that is needed until the seedlings require some support. A few short twigs may be used at first, and these will hold them up until they begin to make tendrils, and as they advance a few tall sticks and twine placed around will hold them up well. If they are inclined to become too tall they may be stopped and this will not delay flowering more than a few days. After they are well advanced they may be potted on into 8-inch pots, and after they begin to show flowers, manure may be used freely. Care must be taken that the plants do not get too dry or the buds will drop.

The above is the most simple method of growing Sweet Peas in pots, but they may also be grown singly. Sow early and pot off the seedlings as soon as ready, and stop from time to time until they have formed bushy plants. They may be tied up to a single stick and will flower well when about 18 inches or 2 feet high. Six-inch pots are large enough for single plants, and really effective specimens can be grown in them.

A. HEMSLEY.

TREES AND SHRUBS.

AMERICAN HYPERICUMS.

THE beautiful family of Cistineæ, or Rock Roses, which adorns so many English gardens, has few representatives in America of sufficient showiness for ornamental planting. Of Cistuses we have none at all, and of Helianthemums very few and not especially attractive species, though the Canadian Frost Plant (*Helianthemum canadense*) is a pretty little shrub.

We have, however, in the allied family of Hypericineæ some beautiful plants, very valuable for rock gardens and shrubberies. Hypericums, or St. John's-worts, are found in the United States in about thirty species. I do not propose to describe many of them, but only a few of the prettiest and most desirable for garden purposes.

Many of our finest St. John's-worts are scarcely known to gardeners, and are hard to procure. Our nurserymen offer but a limited number, and do not seem to appreciate the value of these plants, which offer a most interesting field to the cultivator. I have collected a few kinds not often seen in gardens, and hope that they will ere long become as popular as they deserve to be. *Hypericum moserianum*, a hybrid from two European species, *H. patulum* and *H. calycinum*, is very largely advertised by dealers in this country, while beautiful native species such as *H. pyramidatum* are neglected.

Hypericums may be broadly divided into herbaceous and shrubby kinds. It is true that a few species are annuals, but these are not important as garden plants. Of the shrubby kinds, *Hypericum aureum* is one of the most common as well as one of the showiest. It is a southern species found in Georgia and on the banks of streams in some other Southern States, and is one of the handsomest plants in the family. The flowers, which are mostly single instead of clustered, are 2 inches broad and of a remarkable brilliance. They are bright orange-yellow. The leaves, too, which are thick, oblong with a narrow base, and glaucous beneath, are larger than those of any other species.

Hypericum aureum, which, like most of its class, seems perfectly hardy in the north, forms a compact small shrub, not often exceeding 4 feet in height and 6 feet in circumference. It is very likely that such a beautiful shrub has not escaped the notice of English planters, yet it is a rather recent discovery in America. It begins to bloom in August and continues to bear its showy flowers, set in their broad lustrous foliage, until October.

Kalm's St. John's-wort (*Hypericum kalmianum*) is described as a rare species, except in the neighbourhood of Niagara Falls and on wet sandy soil in Illinois. It is also sparingly found on rocks in the North-Western States. It is offered by many dealers, and is much used in landscape planting. As it grows in our shrubberies it forms a pretty, compact little bush between 2 feet and 3 feet in height, very leafy, the leaves small and narrow, with still smaller ones clustered in the axils. The bright yellow flowers in terminal cymes are often an inch across. It is a cheerful sunny little plant, very useful for the shrubbery or rockwork in late summer.

Hypericum prolificum, the shrubby St. John's-wort, is quite a common species in the Eastern States, and is as ornamental as *H. kalmianum*, for although the flowers are not quite so large they are more abundant in crowded, compound, terminal cymes. It makes a much-branched, broad-headed little bush about 3 feet in height, and blooms at the

same time as *H. kalmianum*. Groups of these St. John's-worts make gay little pictures in the shrubbery, especially if they have a background of larger shrubs, with rich dark green foliage.

Hypericum densiflorum, which inhabits Pine barrens from New Jersey to Florida and west as far as Texas, resembles *H. prolificum* in some respects, but makes a large bush, sometimes 6 feet in height, and is even more densely leafy, and with more crowded blossoms on the terminal cymes. *Hypericum pyramidatum*, also called *H. Ascyron*, the Giant St. John's-wort, is a herbaceous species, almost evergreen in the south. It is found in the north-west, and also from Canada to New Jersey, and forms a large erect plant 6 feet in height in suitable soil. The leaves, which are sessile, clasping, and ovate oblong, are from 2 inches to 5 inches in length. The blossoms are very showy, bright yellow in terminal cymes, the individual flowers 2 inches broad. This is a beautiful plant for the centre of a group of St. John's-worts, and as it is found in Northern Europe and Asia I suppose it is well known to readers of THE GARDEN.

Much less common is the Creeping St. John's-wort (*Hypericum adpressum*), found in many of our Eastern States. This is a very pretty little plant about 1 foot high, with its stem "erect or ascending from a perennial creeping or decumbent base." It has clusters of bright yellow flowers, which are one-half to two-thirds of an inch across. As it spreads quite rapidly, it will soon form a low dense carpet of bright green foliage covered with its gay little flowers.

A group of shrubby *Hypericums* with *H. adpressum* covering the spaces between them, and also serving as a low border, is very effective. It is pretty for rockwork. I am covering a rocky bank with this species in a wild part of the grove, where it is much shaded by overhanging branches of trees. *Hypericums* will thrive better than most shrubs on dry soil and in shade, and the heat and drought of our summers do not seem to injure them. As *H. adpressum* spreads by underground stolons a small piece of root will soon make a dense mass 4 feet or 5 feet across.

The chief peculiarity of *H. galioides* is the pointed, oblique petals of its flowers, which are small but showy in long racemes, instead of flattish cymes, as is the usual habit of the inflorescence of St. John's-worts. This pretty *Hypericum* is herbaceous, with woody base, and is found in low grounds in our Eastern and Southern States.

Hypericum opacum is a southern plant found in South Carolina and west as far as Tennessee. It has erect, slender stems from 1 foot to 4 feet in height, covered with bright red exfoliating bark. It is corymbosely branched towards the summit. The leaves are sessile, linearly oblong, obtuse, punctate with crowded dots 1 inch long and a quarter of an inch broad. The bright yellow flowers are in nearly naked divaricate cymes, and are not quite half an inch in diameter. Then there is a charming little species called *Hypericum Buckleyi*, which is quite rare, and was discovered by Professor Buckley many years ago in the mountains of the Carolinas. It is a wide-branched plant with slender stems from 8 inches to 10 inches long, and has, like the preceding species, reddish exfoliating bark. The leaves are oblong-ovate, from 1 inch to 2½ inches long, and gradually narrowed at the base.

The flowers, with bright yellow petals, are solitary and terminal on slender flower-stalks. They are about 1 inch wide. This *Hypericum* is hardy in Massachusetts, and flowers earlier than most of the family. It is a small, easily-grown shrub, with showy flowers.

Hypericums can be easily raised from seed and grow freely in almost any soil or position. All are remarkably neat and clean-looking plants, and flower for a long time when few other shrubs are in bloom.

I think I have described all the most conspicuous species of the American St. John's-worts. A few others are interesting for marked peculiarities, such as *H. maculatum*, whose leaves and flower

petals are covered with black dots, and *H. virgatum*, whose little flowers are a queer copper colour; but I have, I hope, said enough to awaken the interest of plant lovers in some of our less well-known *Hypericums*, which might be improved by cultivation and hybridisation into very beautiful and valuable garden flowers.

DANSKE DANDRIDGE.

THE ROSE GARDEN.

CLUSTER AND SINGLE ROSES.

FEW gardens contain even a tolerably good collection of these Roses. Al-

though the beautiful Hybrid Perpetual,

Tea, and Noisette

Roses are so gener-

ally cultivated,

there is yet room

for a representa-

tive collection. In a

collection last sum-

mer I noted the fol-

lowing:—The Blush

China, bright pink,

singularly beautiful;

Harrisoni, with its

fine golden yellow

flowers, most telling

in a mass either upon

the plant or in a vase,

and Brennus (belong-

ing to the Hybrid

China section), bril-

liant crimson in

colour, reminds one

of that charming

H.P. Marie Baumann,

a really fine pillar

Rose. Rampant, pale

pink, has neat little

blossoms freely pro-

duced in clusters;

and Red Damask is

very showy, semi-

double, reddish

crimson. Village

Maid resembles York

and Lancaster, except

that the stripes are

much darker; Dun-

dee Rambler, blush

white, well represents

the Ayrshire type of

Rose; and Fellen-

berg, with clusters of

rosy red blossoms, is

a most charming

variety. Mme. Plan-

tier bears pure white

blossoms in large clus-

ters, and is suitable for pillars, but is, perhaps,

better described as a bush. Microphylla, the

single white form of the curious prickly hipped

Indian Rose, is pretty; likewise Ruga, one of the

Ayrshire section of a pale flesh colour and very

fragrant

Félicité-Perpétue is well known, and Vivid,

crimson, is a capital pillar Rose. Waltham

Climber No. 1, with rose-coloured blossoms, is

a free, bright kind; and Sweet Briar Lady

Penzance is one of the best of the new Sweet

Briars, the colour copper, with a peculiar

metallic lustre and bright yellow at the base

of each petal. This is a very good season of

the year to plant these.

ROSARIAN.

NOTES FROM SCOTLAND.

OLD ROSES OF MERIT.

Rosa alba.—Perhaps on account of its being the commonest of all Roses this species has suffered an unmerited neglect, and, as a consequence, it has been permitted to die out of gardens, or where still present it gets not the slightest attention. Most often it is found in company with rough shrubs unpruned and untended, while as one of the loveliest of white Roses it repays thoughtful care as well as any. It is, moreover, absolutely hardy, and therefore well fitted for garden culture in the very coldest localities, while the fact that it still retains the designation of the Jacobite Rose in the north of Scotland is proof that it has been cultivated there for a very long period. The double *R. alba* is also very common, one finding it almost everywhere in cottage gardens in associa-



ROSE FÉLICITÉ-PÉRPÉTUE OVER AN IRON PILLAR.

tion with Maiden's Blush. Both are interesting Roses, the first competing with the all but single alba as the milk-white Rose of York. Maiden's Blush was considered identical with the *Rosa incarnata* of Parkinson and of Rea, but whether the variety grown now is that or one of the later Roses which bore that name it is impossible to say. By many it is considered the most beautiful of the section, but, given equal attention, I think the original alba has better claims to that honourable position. They are very long-lived Roses, and I am acquainted with examples a century to a century and a half or more of age. The rule is that these antiquated specimens have been neglected and considered of no value as garden plants; but they are so easily rejuvenated by the simple process

of cutting over at about 6 inches above the ground and by liberal application of manure for a few years forked into the surface above the roots that no one having exhausted specimens with great woody stems need harbour any doubts as to the result of this treatment. The double alba grows at a great rate and requires an annual excision of superfluous shoots at this season, at the same time shortening those that are left to about two-thirds of their length. The other two grow with less vigour, and pruning must be modified to suit their requirements.

Aimée Vibert.—This fine Rose does not, unfortunately, succeed everywhere in the north, in the colder districts being not infrequently cut down in more than usually severe winters. It is one of the earliest raised Noisettes, and if a true Noisette ought to be the result of a cross between the China and the Musk Rose, and consequently somewhat tender in constitution; but it has plainly also an affinity to *Rosa sempervirens*, as indicated by its foliage and also by the shape of the flowers, which closely approximate to those of Queen of the Belgians. It is to be found trained to walls and on trellises, and grown as well as a pillar Rose, but it also succeeds perfectly as a bush without the aid of any support. At its best it produces annually two crops of flowers—the first on the previous year's growths, and the latter on the current year's shoots, when enormous trusses are often developed. Pruning consists in removing at this season any exhausted shoots kept from last year, and as far as possible leaving nothing but strong young growths which are cut back to hard ripened wood. After the earlier bloom is over it will be found convenient to cut away a portion of the exhausted wood in order to secure to the strong shoots in course of production a full share of light and air. With slight dressings of manure I have found this treatment to suit this Rose.

Mme. Plantier.—This variety is very floriferous, sweet, and fairly hardy, but it is not so much cultivated as it was about thirty years ago or more, when with its near relations *Coupe d'Hébé*, *Charles Lawson*, and *Paul Ricaut* it was well known. It may be trained as a pillar Rose, but does perfectly as a bush provided the numerous shoots it annually produces are somewhat closely pruned every year.

Souvenir de la Malmaison is another old Rose for which a place on a warm wall was found in most gardens. It well deserves the position, its great flat, odorous blooms of the clearest pink fading off to white, exceeding in beauty the *Malmaison* Carnation of the same name. One mistake fallen into in bygone time should, however, be guarded against—the practice I mean of trying to extend the shoots on a high wall, for which the habit of this variety is not fitted. It is much better to plant at the base of a wall, prune pretty hard, and allow at least a portion of the shoots to grow out without attempting to fasten them back to the wall. The Rose also does well in fine seasons grown in bush form in the open, but on the whole the most exquisite blooms are those cultivated in the old way. It may be added that it is one of those varieties to whom high living is essential to beauty of complexion. B.

SCREEN OF FERN FRONDS.

THE collection of specimen Fern fronds, pressing them, and forming them into a screen for the dwelling is a very interesting hobby. The screen of which I enclose a photograph was made by me. I collected the specimens from various gardens, and they number eighty-five. The screen is made in four folds, and of course the fronds are placed on both sides, so that the screen may be frequently turned. Some regard must, of course, be paid to this arrangement, as the size and shape of the fronds are very diverse. Each specimen is labelled correctly, thus making the whole collection a useful study to lovers of Ferns. Partially matured fronds should be selected and carefully placed between sheets of white blotting-paper, then well pressed for a few



A FERN SCREEN.

weeks. Clear gum should be used in fixing the specimens on the surface of the screen.—H. T. MARTIN, *Stoneleigh Abbey Gardens*.

[We think the screen covered with Fern fronds a desirable object for a library, study, or work-room, especially where the owner has horticultural tastes. Nothing is more difficult, to those who know something of the better aspects of room decoration, than to reconcile such a collection of natural objects, however beautiful in themselves, with a pleasant scheme of room furnishing. But where such a screen will not clash with what is in the room it will serve as a convenient form of reference, and be helpful in making the eye familiar with the different forms of fronds. We think that unless the leaves of the screen are to be protected by glass, that merely fixing with gum will not be enough. Such pieces of furniture have to be frequently dusted and handled, and the fronds and paper ground would at least need the protection of a coat of varnish over two coats of clear size.—EDS.]

Spring-flowering Shrubs.

(Continued from page 135.)

SHRUBS OF APRIL.

IN April we have such a wealth of flowering shrubs that it would be impossible to mention all the kinds, and allowance, therefore, must be made for omissions. *Cydonia japonica* was mentioned for last month, and, perhaps, it was possible only because of its flowering on a wall. Early this month in the open we have the quite distinct and valuable variety *Maulei*, which differs at a glance in the orange shade of its flowers. *Ribes aureum* is one of the brightest of its class, and is indispensable. A form known as the *Utah Currant* produces an edible fruit, but it is quite insipid. Also an invaluable shrub is *Ribes gordonianum*, a hybrid between *R. sanguineum* and *R. aureum*, with flowers combining the colours of the two species. *Berberis stenophylla*, a hybrid between *B. empetrifolia* and *B. Darwini*, is far superior to either parent, and is much harder than the latter. It is not only the best of its race, but also one of the best of all flowering shrubs. *B. dulcis* is one of the prettier species, and *B. Darwini* is a fine shrub where it does well. In Cambridge it has a

starved appearance, and needs a milder climate or more shelter. Some species of the beautiful genus

Pyrus commence to flower this month, and I have a note of the very pretty *P. floribunda* *Halleana* as flowering on the 13th. It is more richly coloured with red than *floribunda* itself. Towards the end of the month *P. spectabilis* is in full beauty, and valuable for flower as well as fruit is the *Siberian Crab*. *P. salicifolia* is charming with its mass of white flowers, and is afterwards very pretty and distinct on account of its silver leaves. Magnificent among spring flowers are the varieties of *Magnolia conspicua*, and one I admire especially is the pure white. Unfortunately, spring frosts are liable to damage the blossoms, and the shelter of a wall is valuable. For a low wall I find *M. stellata* very suitable, and the comparatively small but still large flowers are exceedingly charming. Among the *Ericaceæ*, *Andromeda polifolia*, a British species, is very attractive, with pinkish-purple drooping flowers. *Amygdalus incana* is a pretty dwarf Almond, about 2 feet high, with red solitary flowers. The British species of *Prunus*, the Sloe, the Bullace, and Wild Plum, which adorn our hedges, are also beautiful in the garden, and a double variety of the first is well worth cultivation, as indeed are all the double *Rosaceæ*. One of the most beautiful is the Double Chinese Cherry (*Cerasus serrulata*), the flowers of which are rose tinted. In the Cambridge Botanic Gardens an old tree arches over one of the green lanes of short grass, which here and there traverse the shrubberies, and in this case, with a view beyond, the effect is charming. Very beautiful in habit and pretty in flower is *Cerasus pendula*, which is said to be in great favour with the Japanese. With the double Chinese Cherry should have been mentioned the new forms of *Cerasus pseudo-Cerasus* introduced by Mr. James H. Veitch; this is another beautiful species, also a native of China and Japan. A useful sturdy and beautiful shrub is

Rhodotypos kerrioides, with large pure white flowers, succeeded later by black attractive fruit. *Exochorda grandiflora*, sometimes called *Spiraea*, may be regarded as a noble ally, distinguished by its large white flowers; it comes from China, and E. Alberti is a somewhat similar, but, I think, inferior plant from Persia. *Neviusia alabamensis* shows little relationship with the two genera just mentioned; the flowers are without petals; it is a curious and interesting shrub. *Crataegus Oxycantha* properly belongs to May, but it is interesting to note that an early white variety beautifies this month.

DAPHNE CNEORUM is a small species, but charm-

ing with its pink flowers. It is suitable for the edging of a bed, but apparently does not like a chalky soil.

CYTISUS ARDOINI is a very pretty yellow flowered and choice species of the Maritime Alps. The white Broom (Cytisus albus) is a well known graceful ally, necessary in all shrubberies. The

BLADDER-NUTS are probably not all worth growing, but Staphylea colchica has very pretty white flowers, and is good for forcing. The kind most often seen is S. pinnata, which is known as St. Anthony's Nut. Of several

HONEYSUCKLES, using the word in a broad sense, two only of this month are worth mention. Lonicera involucrata is more curious than beautiful, with yellow corollas tinged with red, and reddish bracts. A distinctly good plant is L. tatarica, very charming in its fresh pale green leaves and profusion of pale pink or white or even red flowers. It is well worth raising from seed, as I noted once in Sir Michael Foster's garden, where a group, so obtained, I believe, was very attractive.

Cambridge.

R. IRWIN LYNCH.

(To be continued.)

ÆTHIONEMA GRANDIFLORUM.

ALLIED to the Iberises, and sharing with them the merit of being some of the best of the neat-growing plants for the rock garden, these pretty things from Syria, Asia Minor, and Southern Europe differ from them mainly in the colour of their leaves and flowers. For Iberises, at any rate the best known perennial kinds that are the more important garden plants of their family, have dark green leaves and dead white flowers, while the best Æthionemas have pink flowers and bluish leaves. In the tenderer Iberises gibraltaria and tenoreana there is a tinge of colour inclining to pink or purple, and in some of the annuals a heavy pink and purplish-crimson colouring, but in the most important of each class the distinction of colour is clearly apparent. The illustration shows the best of the Æthionemas, viz., Æ. grandiflorum, a plant that is rather more bushy than its brethren, and has flowers of clear rosy pink colouring. Light soils are generally recommended for them, but they certainly do well in chalky ground.

BULBS AT LYONS VALLEY.

IN an article in THE GARDEN in 1899 I referred to my work in this valley; some of my experiences in 1900 may be of interest to your readers. At the danger of repetition I will state that Lyons Valley is a little vale in the coast range of Northern California, about thirty miles from the Pacific Ocean in an air line. A recent survey would make its altitude about 3,000 feet. My garden was cleared from Oak timber, faces north-east, and in winter, when the sun is low in the south, gets little heat. In the centre of the garden a fine spring breaks out and the luxuriant vegetation it stimulated has given a depth of soil rich in leaf-mould about it, which is always moist. There is a great variety of soils, but the prevailing one is

reddish, very deep and loose, and yet in places holding moisture well.

In the autumn of 1899, encouraged by the gratifying results with Liliums and some other bulbs, I planted largely of all of the native Californian bulbs, together with a fine assortment of Narcissus and Hyacinths. Planting was done in November and early December, while some lots were put in in January.

The winter of 1899 and 1900 was an unusually warm, open one, and flowers appeared much earlier than in 1899. For instance, I had Hyacinths in perfection on May 30, 1899, while the same bulb would be at its best about April 5, 1900. There was less difference in later blooming bulbs. I have for years experimented largely with the Pacific Coast Erythroniums. Last summer I only lacked E. montanum to make my set complete, and each variety was in several situations. I will refer to a few only. E. grandiflorum is usually found at rather high altitudes in Oregon, Washington, and British Columbia, say, from 3,000 feet to 8,000 feet. In cultivation I have found it apt to start prematurely, make scant foliage, and throw up a flower stem which would barely exceed its leaves, whereas it naturally grows to 2 feet high, with glorious yellow flowers as rich as a yellow Daffodil. In the hopes of finding some strain which would do better I secured 500 or more each from five widely removed locations and gave them parallel treatment. No two behaved alike, but the best, a lot from a low altitude, did all I could ask. The leaves were well developed, good scapes towards a foot high produced the flowers splendidly, and all before the other four were even through the ground. I have an idea that the higher mountain forms would, if kept in the ground a few years or if grown from seed, gradually get over their bad habit.

As I have pointed out before in THE GARDEN the Dog's-tooth Violet of the E. revolutum

group—i.e., vars. Watsoni, Johnsoni, præcox, and the type—naturally grow in rather heavy cold soil, but I had an unexpected test of the fact. For one lot of E. Johnsoni and E. revolutum I selected a spot under an Alder tree, which was heavy, and I knew got rather wet. Heavy rains came on, and this spot was so saturated that for a few weeks a man would have sunk in over his shoes in crossing it. The Erythroniums did admirably. The flowers were very fine, and very heavy bulbs were formed. Erythronium Hartwegi is very distinct in having a sessile umbel, each flower appearing to be borne on a long separate scape, and in being bulbiferous. The flowers are creamy shading to yellow, and it is a native of the foothill regions of the Sierra Nevada, a decidedly hot, arid belt, where it grows under low rather scant brush on shelving rocky ledges. Environment has given it resisting qualities to heat and dryness which no other Erythronium possesses. Beds planted in the autumn of 1898 in deep, loose, dry soil were last spring masses of bloom, while they had so increased by off-setting that the ground could be scarcely seen for the leaves. In England this variety would doubtless do best on rock-work. With the Erythronium montanum I have unfortunately failed. It is a sub-alpine growing on the high mountains of Oregon and Washington. According to those who have seen it at home it grows in clumps of grass in a light soil rich in mould, and its pure white flowers of great size are surpassingly beautiful. The summer in these regions is very short, and it is often August or early September before it flowers, and even at that season frosts are frequent. A few weeks later they are again covered by a blanket of snow. The high mountain form of E. grandiflorum grows near it. In cultivation it behaves exactly opposite. While E. grandiflorum rushes into a premature growth, E. montanum does not note the awakening life about it, and when the other



A COLONY OF ÆTHIONEMA GRANDIFLORUM.

Erythroniums have flowered and gone it still waits for its accustomed season of growth.

I had a full set of Californian Fritillarias in flower, and results averaged well. A bed of *F. lanceolata* flowered beautifully, and showed great variation. Botanists describe and name a number of varieties of this, but from this bed, all from a limited locality, forms answering to each of these varieties could have been selected. The beautiful *F. pluriflora* naturally grows in a very deep sticky clay at a depth of 12 inches to 15 inches, where it is often quite wet in the winter. I have found it a very pleasant plant to grow, as almost any garden soil, not rich in manure, suits it. The same is true of *F. biflora*, and to a less degree of *F. liliacea* and *F. agrestis*, the other two Californian Fritillarias of the same habit. A novelty of the past year was a pure white *F. pluriflora*. A large variety of *Cypripedium montanum* gave divided results; the best where the soil retained moisture, and nothing at all in dryer portions. I find that they root but little the first season, but were making good root the second autumn.

Leucocrinum montanum is a lilaceous plant with grassy leaves and a fibrous root. The flowers are borne singly on slender scapes, and are paper white and quite pretty. It is a native of arid lands of the Great Basin, where it grows in sandy soils. Plants of it put in very loose dry soils in my garden in 1898 have continued to increase and have flowered beautifully both seasons.

Trillium sessile var. *californicum* grew naturally in Lyons Valley and grows to perfection in portions of my garden; 1899 brought a form of it from Southern Oregon, which I believe will be a marked improvement on the type. In this variety the petals are broader and pure white. In the type they are purple at the base.

Brodiaeas generally do well in any loose soil, and a loose well-drained soil with considerable vegetable matter in it is essential to success with *B. coccinea* and *B. volubilis*, but my experience of last year tends to show that several species as *B. peduncularis*, *B. Howelli* var. *lilacina*, *B. lactea* var. *lilacina*, and a handsome new form of *B. Douglasi* must have a good deal of moisture to do their best. A bed of *B. peduncularis* was so situated that the water from the spring kept it saturated until after flowering time. This bed was a great success. I have never seen *B. volubilis* grown more beautifully than in a large bed of mine. The bed was in very porous soil on a steep incline, and was a perfect tangle of twisted stems and heads of pink flowers. A novelty in 1900 was a lemon-coloured *Brodiaea coccinea*; it was very pretty. It was a sport growing naturally on a single hillside. Evidently it comes true from seed, as all the bulbs on the little hill bore lemon-coloured flowers.

The genus *Camassia* is much richer in variations than is popularly supposed. It grows from Central California into British Columbia, and from the immediate Pacific Coast to each of the Rocky Mountains, a region over a thousand miles square. Early botanists had one species, *C. Fraseri*, later *C. esculenta* was described; from it *C. Leichtlini* was separated; still later *C. Cusicki* and *C. Howelli* were separated from these, making five described species. I

very fine. The lifting rather emphasised the flowering qualities of *L. Humboldtii* var. *magnificum*, for they flowered nearly as well as the year before, and bulbs of all sizes gave fully 80 per cent. of bloom.

Lilium Kellogi, a new Lily which I discovered in Northern California, behaved well its first year. I planted the bulbs in rather well drained soil, and nearly all of the mature bulbs flowered. *Lilium Kellogi* has an ovate bulb of about the size and shape of *Lilium columbianum*, the leaves are nearly all in whorls, the flowers (one to three) are of a pinkish white closely dotted with purple, and with a distinct spicy fragrance. The segments are closely revolute. (Full description and illustration are in the press of the Californian Academy of Sciences.)

CARL PURDY.

AN ARTIST'S NOTE-BOOK.

THE MARSH MARIGOLD.

(*CALTHA PALUSTRIS*.)

THOSE who are considering what are the worthiest plants for a bog garden should remember that we have in our wild Marsh Marigold one of the best and brightest of bog plants. Its home is in damp meadows and

waterside places, but its favourite haunts of all, where its luscious clumps are most luxuriant and its flowers largest and deepest of colour, are in valley bottoms of black soil, which is almost mud, and black pools of actual mud among Alders and Willows. There are double kinds that are desirable in the bog or cool ground garden, but where plants of some importance of aspect are desired the native plant is the handsomest. The *Calthas* should be planted in every bog garden or by waterside. They are particularly attractive in the little bog garden

A SPRING WATERSIDE FLOWER

(*CALTHA PALUSTRIS*.)

(From a drawing by H. G. Moon.)

have been securing bulbs from many localities and find great variation. A dozen species could be created on as good lines as the known ones, but the mere botanical interest is less than the fact that from a garden standpoint there are much better forms than those in general cultivation.

My mountain garden is peculiar in its adaptation to *Liliums*. In the autumn of 1899 I was compelled to lift the greater part of my Lily bulbs, which, of course, naturally lessened the quantity of bloom in 1900. Still they were

at Kew, where several varieties of the native marsh Marigold are grown, such as *monstroza plena*, with its double yellow flowers, and *purpurascens*. *C. leptosepala* has white flowers.

PYRUS MALUS FLORIBUNDA.

THERE are numerous species of *Pyrus* flowering at the end of April and the beginning of May, but of them all, none, perhaps, appeals to the lover of hardy trees and shrubs so strongly



as this shrubby species. A bush growing 8 feet or 10 feet high, it is of spreading habit, and sends out in every direction its long, graceful branches—now transformed into wands of beautiful rosy blossoms. And it not only flowers with remarkable profusion, but with unfailing regularity. On the whole it may safely be said that no shrub is better worthy of cultivation. In the typical form the flowers are of a pale rose when fully expanded, but in the bud state of a deeper, richer hue. It is when the plants have half their flowers expanded and half yet in bud that its greatest beauty becomes apparent, the one shade contrasting with and increasing the effect of the other. The variety known as *atrosanguinea* is becoming very popular; its flowers are of a richer rose than those of the type, especially when fully open.

THE FLOWER GARDEN.

THE AQUILEGIA FAMILY.

(Continued from page 147.)

SIBERIAN AND CAUCASIAN.

AQUILEGIA GLANDULOSA.—The Altaian Columbine is deservedly one of the favourites of this family. It is from 1 foot to 1½ feet high, with two or

three flowers on its pubescent stem; sepals ovate, bright lilac-blue, 1½ inches long; petals lilac-blue, half as long as the sepals, rounded at the tip; spur quarter of an inch to one-third of an inch long, stout, and much incurved. Altai Mountains and other districts of Central Siberia. *A. g. var. jucunda* has flowers smaller than the type, with the lamina of the petal white and more truncate at the tip.

A. lactiflora.—Rather slender with thin leaves, which are glabrous on both surfaces; sepals nearly white, three-quarters of an inch long; petals half as long as the sepals; spur one-third of an inch long, slender, and nearly straight. Altai Range in South Central Siberia.

A. leptoceras (*A. brachycerus*).—Stems 1 foot high, with several flowers, nearly glabrous throughout; sepals three-quarters of an inch long, bright lilac-blue; petals half as long as sepals, tipped with yellow; stamens protruding beyond lamina of petals; spur slender, slightly curved, three-quarters of an inch long. This species resembles *A. canadensis* in the cutting of the leaves. Eastern Siberia.

A. olympica (*A. vulgaris v. caucasica*, *A. wittmanniana*).—Very near *A. vulgaris*, of which it may be a fine form. Flowers several on a stem, large, light claret or bright lilac-purple, with white petals; sepals 1½ inches long; spur as long as lamina of petal, curved. *A. blanda* can scarcely be separated from this species. Caucasus and mountains of Armenia.

A. parviflora.—Slender and glabrous. The leaves have the upper surface green, while the lower side is glaucous or white. The flowers are the smallest in the genus, blue-lilac or white; spur short, stout, and incurved. Eastern Siberia.

A. sibirica (Siberian Columbine).—Close to *A. vulgaris*, differing in the broader, more obtuse sepals, longer and more slender spur and glabrous carpels. The leaves are slightly glaucous on the upper surface, and more so on the under side; sepals 1½ inches long, bright lilac-blue or pale claret; petals half as long as sepals, often white; spur stout, incurved, three-quarters of an inch long. Eastern Siberia. *A. bicolor*, *A. garnieriana*, and *A. speciosa* are all forms of this species, also *A. spectabilis*, with bright lilac flowers and yellow tipped petals.

A. viridiflora (Green-flowered Columbine).—A curious plant with slender, pubescent stems; sepals oblong, greenish, half an inch long; petals as broad as long, green; spur slender, straight, nearly three-quarters of an inch long; stamens exerted beyond the lamina of the petals. Eastern Siberia.

A. vulgaris var. Karelini.—Similar to the type, with more membranous leaves, which have narrower, deeper, terminal lobes. Altai Mountains.

JAPANESE AQUILEGIAS.

A. buergeriana (*A. atropurpurea*).—Not so stout as *A. vulgaris*. Stems five or six-flowered; sepals three-quarters of an inch long, spreading, yellow, tinged with claret-purple; petals truncate at the tip, pale primrose-yellow; spur slender, erect, and



A SPRING PICTURE: PYRUS MALUS FLORIBUNDA, SHOWING THE BEAUTIFUL EFFECT OF GROUPING.

nearly straight, three-quarters of an inch long, coloured the same as the sepals.

A. flabellata.—A very distinct species, its nearest ally being *A. sibirica*, from which it is readily distinguished by its large, flabellate bracts and short spur; stem glabrous, with glaucous leaves; flowers bright lilac or pale purple, and sometimes white; sepals 1 inch long; petals half as long as sepals, often white in the lilac-flowered forms; spur short, incurved, and slender towards the tip. Japan and Sachalin Isles.

HIMALAYAN AQUILEGIAS.

A. fragrans (*A. vulgaris* var. *pyrenaica*).—Stem slender, 1½ feet to 2 feet high, pubescent above; flowers white or pale purple, fragrant; sepals ovate, 1½ inches long; petals half as long as sepals; spur slender, curved, three-quarters of an inch long, with a slight knob at the tip. Temperate region of the Western Himalayas.

A. glauca (Glaucous Columbine).—The flowers of this species are white and fragrant, sometimes tinted with claret; sepals 1 inch long; petals three-quarters of an inch long; spur straight, nearly half an inch in length. Temperate region of the Western Himalayas. *A. nivalis* is a dwarf one-flowered alpine variety, with pale blue sepals and dark blue petals. From Kashmir.

A. moorcroftiana (*A. kanoriensis*).—Similar to *A. vulgaris* in growth, many-flowered, pubescent from the base upward. The leaves of this species are very glaucous, while the flowers are white, tinted with lilac; sepals reflexing, three-quarters of an inch long; spur nearly straight, slender, as long as the petal lamina, and with a slight knob at the tip. Temperate region of Western Himalaya.

A. pubiflora is 1 foot to 2 feet high, with pubescent stems and glabrous leaves, green above, slightly glaucous beneath; sepals not reflexing, half an inch to three-quarters of an inch long, pale blue or claret; spur stout, incurved, quarter of an inch long. Western half of Himalayas up to 10,000 feet. Var. *mussoriensis* is a form with more lanceolate sepals.

NORTH AMERICAN AQUILEGIAS.

A. brevistyla.—A slender species, with five or six flowers on a stem, blue-lilac sepals, yellow petals and blue spurs, which are stout, incurved, and a quarter of an inch long, with a knob at the end. Rocky Mountains of British North America.

A. canadensis.—The Canadian Columbine has a dwarf and spreading habit. Sepals lanceolate, red, tinted with yellow; petals yellowish; spurs three-quarters of an inch long, nearly straight, thickened towards the top, with a knob at the end, bright red in colour; stamens protruding beyond the lamina of petals. On rocky ground in Canada to Manitoba and south to Florida.

A. chrysantha.—The Golden Columbine is one of the most showy and useful plants of the whole genus; stems tall, and many flowered, with lobes of leaves narrower than in *A. vulgaris*; sepals oblong, spreading, primrose-yellow, tinted with claret at the tip, 1 inch long; petals deeper yellow, shorter than the sepals, nearly as broad as long; spur straight, slender, and divergent, 2 inches long; near the following, but differs in its yellow flowers and much smaller sepals (*A. leptoceras* var. *chrysantha*). Eastern Mexico to Arizona.

A. cœrulea.—The Rocky Mountain Columbine occupies a leading position amongst the members of this family. It is a charming plant, growing about 2 feet high and bearing several flowers on each stem. Sepals usually whitish, sometimes more or less tinted with blue, 1½ inches long and half as broad, reflexing when the flower is fully expanded; petals half as long as sepals, white; spur very slender and straight, 1½ inches to 2 inches long. Subalpine region of the Rocky Mountains, along streamlets. Var. *albiflora* is the westward form found in the Californian Sierra Nevada.

A. ecalcarata.—A nearly spurless form, 1½ feet to 2 feet high, with fragrant white or rose-coloured flowers. South-west Colorado.

quarters of an inch long, slender, and knobbed at the top; stamens twice as long as the lamina of the petals. Alaska to California.

A. Jonesi.—A tufted caespitose plant with stems hardly surpassing the leaves 1 inch or 2 inches high, and blue flowers. North-western Wyoming, &c.

A. longissima.—An autumn-flowering species, with pale yellow flowers and filiform spurs 4 inches to 6 inches long. In ravines of South-west Texas.

A. micrantha.—A slender glandular viscid perennial, with small yellow flowers; petals truncate or nearly so; with a short straight or curved spur. San Juan River, &c.

A. pubescens.—Near *A. chrysantha*, of which it may be a variety, with sulphur-yellow flowers and shorter spurs. California.

A. saximontana.—Scarcely a span high, with slender stems and similar flowers to *A. brevistyla*, but the carpels are glabrous.

A. truncata (*A. californica* and *A. eximia*).—A spreading plant with deep red or scarlet flowers. The lamina of the petal is truncate with a yellow margin. California.

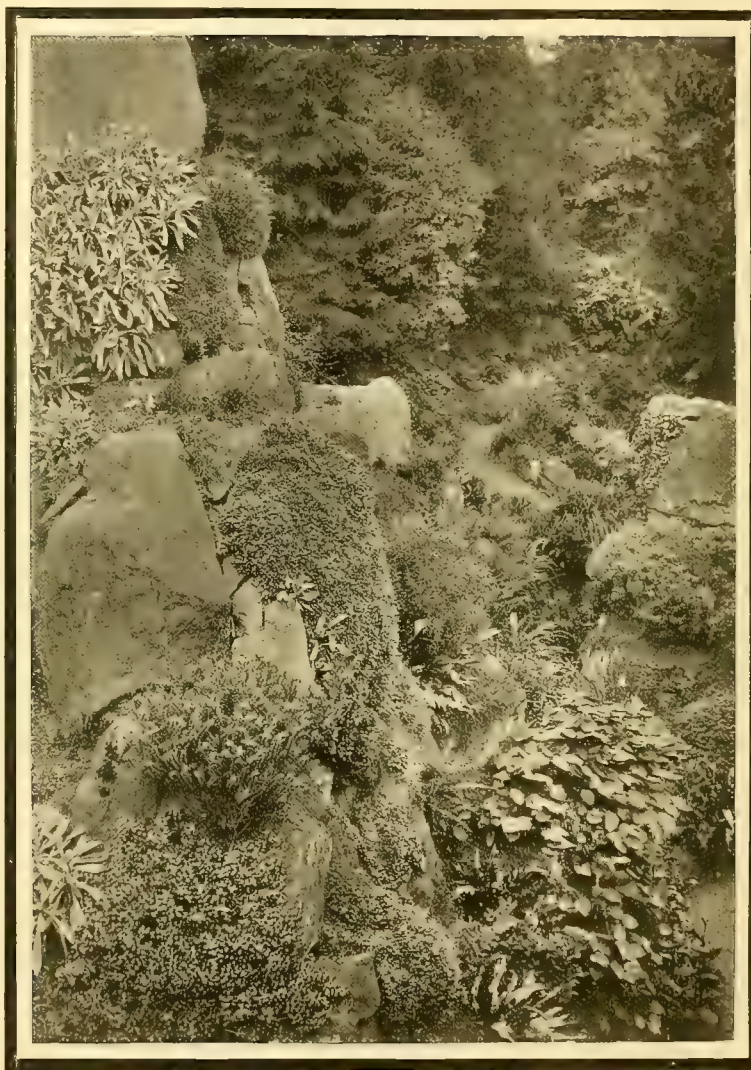
CENTRAL AMERICAN AQUILEGIAS.

A. Skinneri (*A. mexicana*).—Skinner's Columbine has the general habit of *A. canadensis*, the lobes of the leaves being broadly rounded and glaucous beneath; sepals green, lanceolate, 1 inch long; petals greenish, truncate, half as long as the sepals; spur bright red, slender, 1½ inches long. The head of the stamens protrudes nearly 1 inch beyond the lamina of the petals. Mountains of Guatemala.

Owing to the freedom with which the different species cross in cultivation, there are many hybrids and strains, chiefly the result of hybridisation amongst a few of the better species, such as *A. cœrulea*, *A. chrysantha*, *A. glandulosa*, *A. vulgaris*, *A. canadensis*, and others. It is a difficult matter to keep the species pure owing to this fact, and cannot be accomplished without having resource to isolation or other means. The following are a few of the better known hybrids and forms:—*A. bicolor* fl.-pl., a form of *A. sibirica*, with double white and blue flowers; *A. bicolor rubra*, with red flowers; *A. alpina superba*, blue and white; *A. californica hybrida*, with red spurs and yellow mouth; *A. caryophylloides* fl.-pl., a form of *A. vulgaris*, with striped double flowers; *A. cœrulea hybrida* varies in colour from blue to creamy white; *A. cœrulea lutea* is a yellow-flowered distinct variety; *A. chrysantha grandiflora alba* is a

dwarf form with white flowers; *A. chrysantha grandiflora lutea*, large light yellow; *A. Durandi*, double; *A. hybrida* is a synonym of *A. cœrulea hybrida*; *A. Jaeschkani* is a fine hybrid between *chrysantha* and *Skinneri*, with yellow flowers and red spurs; *A. Munstead White* equals *A. vulgaris grandiflora alba*, a very fine pure white form; *A. nivea*, greenish white; *A. n. grandiflora*, semi-double white; *A. spectabilis*, a form of *A. sibirica* from Amurland, with bright lilac flowers, tipped at the mouth with yellow; *A. Stuarti*, blue with white petal lamina; *A. vervaneana*, a form of *A. vulgaris*, with the foliage mottled with yellow.

There seems to be no limit to the number of forms of this useful and charming family, most of



PART OF THE FAMOUS ROCK GARDEN IN MESSRS. BACKHOUSE'S NURSERY AT YORK. (From "Alpine Plants.")

A. flavesces (*A. canadensis* var. *aurea*).—This has the general habit of *A. canadensis* or is rather taller. The leaves are slightly glaucous beneath; sepals lanceolate, three-quarters of an inch long, lemon yellow, slightly tinged with red on the back; petals paler, truncate at the apex; spur shorter than in *A. canadensis*, yellow, slightly incurved with a knob at the end. Along streams in the subalpine zone of the Rocky Mountains of British Columbia, Utah, &c.

A. formosa (*A. arctica*, *A. canadensis* var. *formosa*).—The habit of this species is more spreading than that of *A. canadensis*, with glabrous stems and glaucous leaves; sepals bright red, 1 inch long, pubescent with a green tip; petals yellow, half as long as sepals; spurs three-

them of very free habit and flourishing in any good garden soil, although preferring a heavy loam.

Kew.

W. IRVING.

BOOKS.

Alpine Plants.—We reviewed in THE GARDEN of February 23 a little book upon alpine plants by Mr. Clarke, of Messrs. Backhouse and Son's nursery at York. The accompanying illustration is the frontispiece, and shows part of the famous rock garden in Messrs. Backhouse's nursery, about which we shall write shortly at greater length than is possible now.

CORRESPONDENCE.

THE FLOWERING OF BAMBOOS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In the issue of THE GARDEN for June 16 of last year (page 435) "S. W. F." mentions the flowering of *Bambusa Simoni striata* at Abbotsbury, Dorsetshire, and comments on the flowering of Bamboos as follows:—"It has been asserted that with regard to the flowering of Bamboos, the whole species blossoms simultaneously, and not isolated examples, and that subsequent to flowering the clumps die." In the following week's issue, at page 456, corroboration of this is given by quoting an extract from the *Westminster Gazette*, based on some remarks in the annual report of H.B.M. Consul, Pakhoi. I take the following remarks, in connection with the subject, from Munro's "Monograph of the Bambusaceæ." In regard to *Bambusa arundinacea* the author says:—"Bambusa arundinacea takes a long time in coming to the flowering stage. Dr. Hooker is of opinion that this Bamboo does not flower at any particular age, but at any period when full grown, and the circumstances of the season are favourable to its flowering." Of other species the following interesting information is given:—"The late Sir W. Sleeman stated, as a fact observed by himself, that in 1836 all the large Bamboos in the Deyrah, Shoon which had been the principal feature of beauty in the valley for the last twenty-five years, ran to seed and died." "Dr. Wallich mentions that a celebrated grove of Bamboos which surrounded the city of Rampoxe, in Rohilcund, blossomed universally in 1824, and every stem died, and he was informed that the same event happened forty years previously." "Mr. Spilsbury states that all the Bamboos between Jubbulpore and Mundlah seeded in 1839, and died shortly afterwards. *Melocanna bambusoides* flowered generally in Tipperah, Rungpore, Arracan, and Chittagong in 1863-66, and died immediately afterwards." "Dr. Anderson, superintendent of the Botanic Gardens, Calcutta, states that in 1857 and 1858 many of the Bamboos near Calcutta and on Parasnath flowered and seeded, but in no case that he was aware of did a general death of the Bamboos follow. So far as he observed only the flowering shoots died, and their place was taken by young shoots springing from the roots, but during the flowering and seeding the foliage almost entirely disappeared. He adds: *Bambusa gigantea* at Calcutta flowered for the first time after thirty years in 1861; and remained alive although the plants were weakened." "*Arundinaria hookeriana*, Munro," Dr. Hooker says, "after maturing its seeds and giving off suckers from the root, the parent plant dies." "*Bambusa flexuosa*, Munro, Osbeck during his travels in China in 1751, mentions that it is said to flower once in sixty years." Munro says of *Dendrocalamus strictus*, Nees, that it flowers frequently, if not every year, and does not die down after flowering. Roxburgh states, according to Munro, that he never saw *Bambusa Balcooa* more than once in flower, and Humboldt, according to the same authority, "Mons Mutis herborised for twenty years in the country where *Bambusa guadua* formed marshy forests, several leagues broad, without being able to procure a flower."

Munro also says: "Some of the *Arundinaria* which die down every year, and springing up again, flower annually."

From "Hooker's Flora of British India," vol. vii., I take the following:—"Arundinaria walkeriana, Munro; probably flowers frequently." "Arundinaria wightiana, Nees; flowers annually." "Arundinaria racemosa, Munro; flowers rarely, and only in the higher elevations, 6,000 feet to 12,000 feet." "Arundinaria griffithiana, Munro; only once seen in flower." "Bambusa Tulda, Roxb; flowers gregariously, and in single clumps." "Bambusa arundinacea, Willd; flowers gregariously and in small clumps."

Hance, in his supplement to the "Flora Hongkongensis," at page 49, has the following remarks on the flowering of *Dendrocalamus latiflorus*, Munro:—"This fine species, the 'Great Bamboo' of the Chinese, which has culms about 40 feet high, instead of 7 feet—as stated by Munro—flowers, *juvante Jove*, annually without dying down or being apparently weakened." On the same page, he says of *Bambusa flexuosa*, Munro:—"A curious and distinct species, forming dense clumps, apparently flowering less regularly than *Dendrocalamus latiflorus*, but also not dying afterwards."

As regards the flowering of *Bambusa tuldoidea*, Munro, I can say from personal observations that it has flowered annually in Hong Kong for the last six or seven years without dying subsequently, and also that clumps of apparently the same age do not flower simultaneously. This species flowers from March onwards, and at the time of writing (the beginning of August) many clumps of it are in flower. It becomes considerably weakened by flowering, and loses many leaves, but ultimately recovers. *Schizostachyum dumetorum*, Munro (*Bambusa dumetorum*, Hance), also flowers annually without dying down. *Phyllostachys bambusoides* and an *Arundinaria* I obtained in flower in 1897, but I have not seen them in flower since. I know, however, that they did not die after flowering. Although it is an undoubted fact that many Bamboos die immediately after flowering, it will be seen from the foregoing remarks that many others do not. The popular notion that all Bamboos die subsequently to flowering has probably arisen from observations made in India, where large forests of Bamboos exist. Each Bamboo forest is composed principally (probably) of one species, and if that particular species dies after flowering it does not require much stretching of the imagination to come to the conclusion, when a whole forest disappears, that all Bamboos die after flowering.

W. J. TUTCHER.

Botanic Gardens, Hong Kong.

ZEPHYRANTHES CANDIDA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Canon Ellacombe is severe, unkind almost, in his criticism of this plant, for which, on the strength of its good behaviour at Kew in a variety of seasons for the last ten years I claimed the favour of "the million." He has found it most capricious—a failure I gather—and so have others, he says. But how much does this prove against the merits of the plant? Once upon a time *Liliums* were most capricious, failures in fact, at Kew; now they are one of the great attractions of the garden. This is true also of *Roses*, *Bamboos*, and other plants that now present no difficulties, but were considered "capricious." *Begonia Gloire de Lorraine*, a perfect weed in gardens to-day, and essentially a plant for the million, was voted worthless when first sent out, because no one could grow it. I only wish to show that no cultivator is justified in condemning a plant for general cultivation because it behaves badly with him. Of course we should be equally careful not to claim favour for a plant on insufficient grounds. With regard to the *Zephyr* flower, however, the test has been long enough, and there has been no "conjuring" at Kew; on the contrary, the plant has done all itself. I feel certain that at Bitton it would behave at least as well as it does at Kew. I hope Mr. Ellacombe will try again. I wonder if he could help us with the *Gentianella* (*G. acaulis*), which is an utter failure at Kew.

W. W.

GARDENING OF THE WEEK.

KITCHEN GARDEN.

CAULIFLOWERS.

REMOVE the lights from autumn-sown Cauliflowers on every favourable morning and replace them at night, so that by the end of the month they will be quite hardened and ready for planting out in some enriched and sheltered part of the garden. Nothing is gained by putting these plants out before the weather is mild and settled; they are better kept in the pots another week than allowed to suffer from cold winds. The young plants raised from seeds sown five weeks ago will be ready for pricking out in a cold frame in good rich soil, where they will make rapid progress and form a close succession to those sown in the autumn. A sowing of Early London Snowball and Magum Bonum should be made on a sheltered border, so that there may be no break in the supply from the time the first heads are cut from the autumn-sown plants, until Walcheren and Veitch's Autumn Giant, sown a fortnight later, bring the season to a close. Root crops still in the ground should be lifted at once and placed in clumps behind a north wall, where they will keep much longer and in better condition than if stored in sheds in the ordinary way. Sifted ashes may be used to keep the air from shrivelling the roots of Parsnips, Carrots, Salsify, and Scorzonera, and if the ground is carefully dug after the removal of these crops no further preparation will be necessary for a plantation of any of the Brassicas. Celery may also be lifted and stored behind a north wall, where it will keep for a considerable time if carefully handled and placed in an upright position; the ground thus cleared may be used for the main crop of Onions, as advised a fortnight ago.

ASPARAGUS BEDS

that were top-dressed at the beginning of the winter will now require attention. If any undecayed manure still remains on the surface it should be removed before covering the beds with soil, or the young shoots coming in contact with it will be spoiled; when digging the alleys the beds may be covered lightly with fine soil to prevent the sun and wind from unduly drying the surface dressing. If it is intended to plant a row of Cauliflowers in the alleys a good dressing of rough manure may be dug into the ground, which will not only assist the Cauliflower but will help to prepare the soil for surface dressing the following season. Whatever crop is to be planted between the beds should be an early one, so that it will be off the ground before the Asparagus has grown tall enough to deprive it of light and air, or it will simply mean the ruin of whatever is planted. Where Asparagus is forced in large quantities preparation should be made at once for sowing seeds where the plants are intended to grow, until required for the forcing pits in three years' time. The ground should be trenched and heavily manured, and if of a retentive nature should have a good dressing of road sand or grit of any kind to keep the ground open; the seeds should be sown in drills 15 inches apart, placing three seeds in clumps 1 foot apart in the row. When the young plants have advanced sufficiently to enable one to distinguish the strongest they may be thinned out to one, and kept free from weeds; in the winter when the ground has been cleared of all dead stems it may have a top-dressing of leaf soil from the forcing pits.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

INDOOR GARDEN.

COOL OR GREENHOUSE FERNS.

WITH the advent of spring signs are apparent in this interesting family that root action has started, and, if the necessary work to be done here has not yet been commenced, no time should now be lost. Many will require repotting, and others will simply need the surface soil carefully pricked over and a little fresh compost added. The majority in this section require a light porous soil to grow in, but

in the case of some of the *Aspleniums* a dusting of dissolved bones may profitably be used. *Davallias* and *Nephrolepis* growing in baskets should be carefully gone over, and where necessary have the rhizomes pegged down to the surface again, and if fresh baskets or pans are being made up plenty of drainage must be afforded. The present is also the safest season in which to transplant tree Ferns which have overgrown their quarters or are being removed for any other reason. *Bouvardias* should be cut back, the stems carefully washed, and the pots stood in a house where sufficient heat is maintained as will induce a fresh start to be made. No water at the roots, unless when exceptionally dry, should be given, but the spray of the syringe is decidedly beneficial. As soon as a few inches of growth are made a batch of cuttings should be put in, as I think it a wise plan to be always working up young stock of this and many other such useful subjects, provided, of course, accommodation be available. Repotting *Amaryllis* where necessary must now be attended to, a compost of two parts loam, one leaf-soil, one-half of sand, and the same amount of fresh horse manure, adding a dust of Thomson's manure and soot; liberal drainage, clean pots, and firm potting are essentials. A position in a low house or pit near the glass, the pots plunged to the rims in leaves, is to be preferred. Water should not be given for a few days, but when this does take place let it be thorough.

GREENHOUSE PLANTS.

Seasonable work here presses, and attention thereto is directed. To most greenhouse plants a change into fresh pots and soil is recommended, soil suitable to the various subjects being duly studied and, so far as possible, afforded. The collection is too numerous to admit of each being separately dealt with here. The cutting back of many into something approaching shapeliness will be a matter which will present itself to the grower. Such things as *Abutilons* require this treatment, as also do *Brugmansia* (*Datura*), *Citrus*, *Plumbago*, *Myrtus*, &c. Plants growing on the roof, such as *Passiflora*, *Clematis*, *Tacsonia*, *Acacia*, *Clianthus*, &c., being duly thinned out, should have the main leaders neatly but not tightly secured to the wire trellis. Cuttings, wherever obtainable and desired, should be put into heat and pushed on that young stock be forthcoming. *Nerines* now making satisfactory growth should be stimulated by the application of some reliable invigorator, such as Clay's, Davis', or Standen's manure. Any of these, if given with discretion and in moderation, have a good effect on the growth of this popular plant. *Vallota purpurea* is somewhat similar in its requirements. Bulbs introduced from the nursery in a dry state should upon arrival be immediately placed in their pots, and stood in a frame plunged in ashes up to the rims, and no water given. Little is now heard of the so-called *Eucharis* mite. I presume gardeners understand how to battle with it, or has it died a natural death? Little may at present be done to existing stock unless it is desired to increase the number of pots, when the shaking out of old and young bulbs and repotting in their respective sizes is recommended. I believe the placing of three good-sized bulbs in a 6-inch pot is a method that finds favour with many growers. The foliage should at all times be kept scrupulously clean.

J. F. McLEOD.

Dover House Gardens, Roehampton.

FRUIT GARDEN.

FORCED POT VINES.

THE berries of Vines forced for first supplies will now be swelling freely and will need abundant supplies of nourishment; indeed, at this stage pot Vines frequently receive a check, and the berries in such cases do not swell evenly. Want of moisture either at the roots or in the atmosphere will arrest growth. With regard to feeding, much depends upon the state of the roots, which should now be vigorous, and working freely in the top-dressings given a short time ago. If the latter be spent, more should be given in the shape of turfy loam, bone-meal, and decayed manure. There are

also some excellent quick-acting fertilisers, such as superphosphates, but these need care in application, as overdoses are more disastrous than none at all. To encourage surface roots, place some newly-cut turf about 3 inches thick over the rims of the pots, and this then forms a basin over the roots, allowing more rich top-dressings. If the turf be kept well saturated with liquid manure the roots soon lay hold of it, and there are few aids more trustworthy than liquid manure applied frequently, as it is safe and effective. Weak liquid manure may also be placed in the evaporating pans. This will keep red spider at bay. The lateral growths below the fruit need close stopping, but it is well to give those beyond the bunches more freedom as they assist the latter in swelling. The temperatures may now be liberal—70° to 80° during bright weather, with more ventilation, closing early before the sun leaves the house, allowing the thermometer to run up freely, and maintaining a moist, growing atmosphere. The night temperature may range from 65° to 70° in mild weather, but avoid dryness or overheating, and to save hard firing cover the glass at night in severe weather.

PLANTING VINES.

When ripened canes are planted—that is, young Vines grown last year for the purpose—this is a good time for the work. For outside planting, of course, there is no hurry, and in this case stronger Vines are needed. Few Vines, however, are planted outside now; still, in some places where plants are grown, better results are secured with outside borders if the latter are elevated and well drained. No matter how planted, whether inside or out, the old mass of roots should be well shaken out or separated from the soil. This is rather difficult and needs care in handling, but is more readily done if the plants are turned out of the pots and the mass soaked in water for a time previous to the planting. Any broken roots should be shortened back, and avoid deep planting. Spread out the fibrous roots to their full extent, covering with fine soil, and making firm with the hand. The borders should be made some time in advance to allow of settling, and outside ones covered to throw off heavy rains. Of course, only a portion of the border is made at the start, as it is better to add to as growth is made, but use turfy loam freely and drain thoroughly. Avoid rank manures. It is not safe at this period to shorten back planting canes, as they bleed badly; the eyes or buds should be rubbed out to the distance required, and with Vines planted inside should make their growth close to the soil, as then a strong and more shapely growth will be secured. After planting outside Vines, cover the border with litter or some material that will prevent its becoming soddened.

G. WYTHEN.

Syon House Gardens, Brentford.

ORCHIDS.

WORK IN THE HOUSES.

At this season certain species already show signs of activity, and as one notices the somewhat rapid growth made from the base by certain deciduous and semi-evergreen *Dendrobiums*, and also by such deciduous species as *Pleione* and *Thunia*, that growth should be encouraged by damping the walls and walks on bright sunny days and keeping the house close. A hot treatment is, however, a great mistake and usually produces the most serious results; it is at present harmful in the extreme, for a rapid vegetation cannot at this time of the year be maintained unless by the stimulus of the hot-water pipes, and the growth produced under such conditions is naturally weak and of little use. If one wishes to attain the object in view, which consists in having strong plants capable of producing their flowers, without at the same time exhausting themselves, the activity of the vegetation must be gradual, and each plant must be grown as hardily as its constitution will allow. In well-organised cultures the ventilation of the houses is a subject which receives the most serious consideration; and it is right that it should be so, as the giving of air is a most important point. It is indispensable to good cultivation to prevent the

atmosphere of an Orchid house from becoming "stuffy," and to that effect proper ventilation must be afforded, and, while the raising of the temperature by the sun is beneficial to the plants which are slowly recovering from their season of rest, one must be careful not to attempt on a sunless day to keep up the temperature by means of fire heat. In the intermediate or Mexican house there is not much work to do yet, and it is a good plan to see that all the plants are clean. In cleaning and replacing the plants it is well to put to the light, and in the warmest part of the house, such species as *Lælia purpurata*, *Cattleya crispata*, and a few others which have already started into growth, whereas *Cattleya Skinneri*, and such others which are still quietly resting, should be placed in the coolest and driest part of the house. The intermediate house is also a very suitable place for the majority of

CYPRIPEDIUMS.

Such species as *C. philippinense*, *rothschildianum*, *Stonei*, and *sanderianum* and their varieties, as well as those belonging to the *Selenipedium* group, prefer the East Indian house. These, however, may be, and are occasionally, grown successfully though slowly, and perhaps not quite so luxuriantly in the intermediate house. The repotting of all the *Cypripediums* which have done flowering should not be delayed any longer. A very good compost suitable to all *Cypripediums*, except those belonging to the *niveum-concolor* section, consists in a mixture of two parts roughly broken peat, one part chopped sphagnum, a little fibrous loam, broken charcoal, and mortar rubbish forming a very good fourth part. The potting should be made moderately firm, and special care should be taken in doing this operation that the crowns of the plants are not buried below the surface of the soil but kept well above it—in fact, level with the rim of the pot.

Cypripedium bellatulum, *concolor*, *Godefroyæ*, *niveum*, *Regnieri*, and *tonkinense* thrive best when grown in soil of a chalky nature. If this is not ready at hand, a good substitute may be formed by mixing, in equal proportions, stiff yellow loam and limestone broken in small lumps, varying in size according to that of the plants and of the pots to be used. The principal work at this season is to be found in the cool house, where all the *Odontoglossums* which have done flowering should at once be examined and repotted if they require it; if the soil in the pots is still sweet and good they need only be top-dressed.

S.

THE FLOWER GARDEN.

ORNAMENTAL CONIFERS.

WHERE these are used in the pleasure grounds as specimen plants means must be taken to keep them in health and vigour. Young trees are frequently planted and do well for a few years, only to lose their bottom branches eventually and be cut away before they really reach specimen size. When one examines the ground which has been covered and occupied by such trees, a reason for the partial failure becomes apparent as the soil is poor and absolutely dry, very hard, and hungry looking. Before this bad condition is arrived at, new and rich soil should be placed within reach of the roots, the surface soil being broken up and removed to make room for the new, which acts beneficially in two ways—first, as providing food; and, second, as allowing access to rain. Many fine old specimen trees have been restored in this way, and young ones which show signs of want of vigour in the lower branches should be treated in time. There are soils and situations in which Conifers do not succeed, but failure from this cause is shown in the tops of the trees and not in the lower branches. I think it may be fairly said of trees which are carrying a good top growth, but which have lost their lower branches all round, that they have been starved into this condition.

EVERGREEN SHRUBS.

Though I do not advocate anything like formal shaping of evergreens by the aid of the knife or shears, it is necessary to look over banks of shrubs

and single specimens once a year, cutting back a few branches here and there which are inclined to upset the balance of the shrub. During the next few weeks is the best time for this work, as back buds will push freely soon and hide the effects of the knife. Some of the variegated Hollies, and notably that fine variety the Milkmaid, are apt to produce growths with fully green leaves. These should be removed each year, for if allowed to remain they promote the production of still more green-leaved shoots.

ANEMONE JAPONICA.

In some soils, and especially in those of a heavy nature, the varieties of *Anemone japonica* grows strongly and well if left alone, but in others they require frequent feeding. Most gardeners know how this plant resents being transplanted, and refuses to do well for a year afterwards. An excellent method of treating the clumps or lines of this plant is to cut away half the bulk each year, excavating a hole where the half that has been removed grew and filling up with richly manured soil. Into this new soil strong crowns are pushed, and these form the plant for the succeeding year when the other half of the plant is taken away and the process repeated. This has been the method with a long row of this *Anemone* for twenty years past, and in a soil not naturally well suited to it, but the display of flowers from the young crowns each year is magnificent. Even in dry seasons there is no sign of distress and the plants go on producing wonderful blossoms on the strongest of stems all the autumn.

GENERAL WORK.

Dahlias, of which stock is short, should be put into heat near the glass for the production of sturdy cuttings, which may be taken off with a heel to each and struck in a propagating case or handlight. Sweet Peas may be sown at any time now while the weather is fit. Sow the seeds 2 inches deep in rows or rings, taking care that they are not raised above the surrounding ground, and that there shall be no difficulties as to watering in dry weather. Last autumn gave an object-lesson in the need for an ample water supply. An abnormally wet August was followed by such a display of second crop Sweet Peas as has rarely been seen. Yellow Crocuses will need some protection from the sparrows. This may be provided by stretching black cotton fairly tight just above the blossoms.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

CINERARIA HYBRIDS.

DURING the last few years a distinct change has taken place in the garden *Cineraria*, due mainly to the crossing of *Senecio* (*Cineraria*) *cruentus*, *Heritieri*, and *multiflorus* with each other and with good strains of the well known garden forms. By this crossing, together with several years' selection of the best forms, a number of fixed types have been produced, the majority of which are superior in many respects to the older strains. The work has been effected to a great extent at the Royal Gardens, Kew; by Mr. Lynch, of the Cambridge Botanic Gardens; Messrs. Sutton and Sons, Messrs. Veitch, Mr. Bennett-Poë, Mr. W. J. James, and various others have also helped.

Of the hybrids and selected forms produced at Kew, those known as Kew Blue, *kewensis*, and Lady Thiselton-Dyer are the best. The first of the three is a selected blue of a very rich shade. The plant grows from 1½ feet to 2 feet high, and is very floriferous. It is of compact habit, and comes true from seed.

C. kewensis was obtained by crossing *C. cruentus* with good garden forms. By this cross a very fine and distinct break occurred, the plants having the varied and bright colours of the garden forms with the larger and more graceful habit of the species. Well grown plants attain a height of 4 feet, and produce inflorescences 3 feet across, the individual heads being 1 inch in diameter. It comes true from seeds.

C. Lady Thiselton-Dyer is a charming plant, and originated by crossing *C. Heritieri* with Kew Blue. It has much the habit of the species, especially in the small whitish leaves, the heads of flowers being much nearer those of the other parent. It grows 1½ feet to 2 feet high, has large spreading inflorescences, with individual flower-heads 1½ inches across. The ray florets are whitish at the base, with an outer margin of pale blue. It was exhibited at the Drill Hall for the first time in 1900. So far it has been propagated by means of cuttings.

A group very similar in many respects to *C. kewensis* is that known as *C. stellata*. It was raised by Messrs. Sutton, of Reading, *C. cruentus* and *multiflorus* being said to be the parents. The plants grow to about the same size as *kewensis*, are light and graceful when in flower, not very well clothed with leaves, and the flowers are rather deficient in bright shades of colour. Can be raised from seeds.

A Cambridge hybrid of considerable merit has been named *C. cantabrigiensis*; it is of dwarf, compact habit, flowers freely for several months in succession, and produces large, bright reddish heads of flowers. It is a very useful plant.

C. Moorei, a dwarf, compact hybrid with a good deal of the *Heritieri* habit and bright reddish purple flowers, is a very attractive plant. It was named after Mr. Moore, of Glasnevin, at which place it is said to have originated.

A very pretty hybrid was raised a few years ago by Mr. Bennett-Poë by crossing *Heritieri* with a garden form. It grows 1½ feet to 2 feet high, makes a dense bush, and is very floriferous. The ray florets are white, sometimes faintly tinged at the ends with pink, the disk florets purple. It is unnamed, save for the distinction Bennett-Poë's Hybrid.

The last three, together with *C. Lady Thiselton-Dyer*, are grown from cuttings, which should be taken from the bases of the plants in May and June. They root quickly in sandy soil in a close case, and should afterwards be treated as other *Cinerarias*, giving rich soil, a cool, moist bottomed frame in summer, and a light airy house in winter.

The *stellata* and *kewensis* groups may be raised from seeds any time up to the end of July. They must be kept growing quickly, and for large specimens given 9-inch or 10-inch pots. By liberal treatment large quantities of flowers are obtained, which are invaluable for decorative work in pots or for cutting.

W. DALLIMORE.

NURSERY GARDENS.

MESSRS. H CANNELL AND SONS, SWANLEY.

ALL who have travelled by the Chatham and Dover Railway from Victoria to Maidstone cannot have failed to notice the nursery grounds of Messrs. Cannell and Sons, both at Swanley and Eynsford; indeed, if this journey is made during the summer time, a lasting impression of the "Home of Flowers," as Mr. Cannell has appropriately named his nursery grounds, cannot but be carried away, for acres and acres of ground are then ablaze with the flowers of brightly-coloured annuals and perennials. There is always something to interest one at Swanley and Eynsford whenever the visit may be paid, for, besides the hardy flowers, a large acreage is devoted to the culture



GROUP OF HYBRID CINERARIA LADY THISELTON-DYER IN THE GREENHOUSE AT KEW.

of all sorts of fruit trees, hardy shrubs, and farm produce also. In midwinter the zonal Pelargoniums, for which Mr. Cannell has done so much good work, and in which he has effected so great an improvement, are worth going far to see. All are familiar with the fine exhibits of these winter-flowering plants sent from the Swanley nurseries to the Drill Hall and the Royal Aquarium on the occasion of the shows held there. Now, of course, the beauty of the zonals is over for the present, and interest is centred upon the spring-flowering Primulas, Cyclamens, and Cinerarias. Many houses are filled by these both at Swanley and Eynsford, and their vigorous and healthy appearance bears good testimony to the suitability of the neighbourhood for purposes of culture.

Messrs. Cannell have done much to improve the Chinese Primulas, more particularly the single forms, and they have also been successful in obtaining several beautiful varieties of the Star Primulas that are now coming so much to the fore. That there is a great deal to be said for them one cannot doubt, as for general decorative purposes they are far more useful than are the majority of the Chinese forms. They bloom more freely, are of much better habit, and they remain in flower over a long period. Many, however, prefer the Chinese Primulas, because of the wonderful variety of colours in the flowers they produce, colours that the Star Primulas are yet far from possessing. It is, however, most probable that in the near future we shall be able to obtain the latter in much greater variety than is now the case. Messrs. Cannell already have several kinds of quite distinct and pleasing colours, yet with all the good characteristics of *Primula stellata*; when one compares, for instance, Lady Emily Dyke, an old form of this type, with Mrs. H. Cannell, one can see at once what strides have been made. The latter is one of the best white Star Primulas; it is of a soft pure white, the flowers are larger and of better quality, and more lasting than are those of Lady Dyke, yet they are produced in equal profusion. Miss Irene, a new variety, has beautiful rose-coloured blossoms, and will certainly before long rank as one of the most popular of the coloured forms of *P. stellata*. Salmon Beauty, whose colour is well described by its name, is a very pretty flower, and gains in attraction by reason of its fine dark foliage. This also is a recent addition to the Star Primulas, and one that may be heartily welcomed, for the habit of the plant and the uncommon colour of its flowers form a very distinct and pleasing combination. Red Lady and Pink Lady are other novelties of the stellata type, and their colour is sufficiently indicated by the names they bear. During the last few years Mr. Harry Cannell, jun., has devoted a deal of time to the crossing of *Primula sinensis* and *P. stellata*, and in the collection of seedlings now in flower it is not difficult to discern several varieties with the characteristics of both parents that have undoubtedly come to stay. The whites are very fine, the colour and substance of the flowers being a great improvement upon those of the older forms of *P. stellata*. Two of the best are Venus and Eucharis; these have distinct, dark coloured foliage, and the blooms remain in good condition for a considerable time.

Amongst the Chinese Primulas we were pleased to see Cannell's Pink well in evidence, for it is a splendid flower, of good size, and a lovely pink in colour. Dr. Nansen has blooms of a rich deep red, and although it has not yet been sent out, Messrs. Cannell hope soon to have sufficient seed to enable them to distribute it. Lovely is a giant Pink, whose appearance is much improved by the dark, handsome foliage; while Emperor Improved provides as good a flower as one could wish to have of its colour, which is perhaps best described as a deep salmon-rose. This variety is one of the freest flowering that Messrs. Cannell have. Queen of the Pinks is of a somewhat pale shade, and My Favourite bears deep, bluish-pink flowers, not so large as are those of Cannell's Pink. The Queen, a variety that is practically white, yet perhaps more correctly described as slightly tinged with blush, has a peculiar characteristic, which is also an advantage. The habit of the plant is so compact that the latter is invariably better the second year

than the first, and is then not at all unsightly, as most Primulas would be. Swanley Giant is a very fine rose-purple, of vigorous habit, and indispensable to all who are fond of this colour. Of the Fern-leaf varieties White Perfection is one of the best and most useful; it bears splendid flower trusses of pure white. The blue Primulas are not neglected at Swanley, for besides Swanley Blue, and one or two other singles of this colour, we noticed one that at present has but the name of Semidouble Blue, a compact growing sort of a very good shade of blue.

Eynsford Yellow, obtained by continued hybridisation between oculated ones and Swanley White, we thought to be particularly worthy of note. The ground colour of the flower is white, while the eye is quite large and yellow; there is a slight tinge of green yet remaining, but this will doubtless before long be entirely eliminated. We unfortunately have not the space at disposal to individually refer to the Cyclamens, nor to the splendid Cinerarias that in a few weeks will be a blaze of colour, and will be worth a long journey to see. Mr. Cannell, sen., was good enough to show to us the nursery grounds at Eynsford, where Mr. Robert Cannell attends to the cultivation of the fruit trees and the production of hardy flower seeds, for the supply of which the "Home of Flowers" is so well known. The occupants of this ground are, however, practically at rest, so nothing shall now be said about them; rather would we wait for an opportunity of seeing them at their best at a more favourable season of the year.

HARDY FRUITS IN SEASON.

By their intrinsic merits many fruits have forced themselves into public favour, and are known far and wide as popular and familiar friends. Thus amongst Grapes we have the Black Hamburgh, Madresfield Court, Foster's Seedling, and Buckland Sweetwater as the best of summer Grapes, the White Muscat for autumn and early winter, and for later use the Black Alicante, Gros Colmar, and Lady Downe's.

The same may be said of summer and autumn Pears, such as the Jargonelle, Louise Bonne of Jersey, Marie Louise, Thomson's, and Doyenné du Comice, all of which are well known and recognised as the best varieties in their respective seasons. This is not so with regard to late winter Pears; no variety that I know of ever succeeded in forcing its way into public favour as particularly distinct and better than any other. This is not because such do not exist, but is owing



STANDARD TREE OF LORD BURLEIGH APPLE.

to the apathy of growers in not giving the public the opportunity of becoming familiar with our best English-grown winter Pears; such a Pear is Nouvelle Fulvie. This I consider to be the Doyenné du Comice of late winter varieties. The fruit is of pyriform shape, greenish yellow in colour, and of moderate size, and as regards quality and flavour for this late season it is, in my opinion, the best of all Pears. We have now (March 4) a few still ripe, and the most critical connoisseur could not desire a sweeter or more melting fruit; it is far and away better flavoured than any foreign Pear on the market at the present time. Here it grows well and fruits freely as a bush and pyramid in the open quarter and even as a standard in the orchard. The few fruits that we have now left were so grown. This hardiness, freedom of growth, and cropping make the variety very valuable, as it may be grown successfully in the humblest cottage garden.

Olivier de Serres is considered by many the best Pear for March, but is, I think, so far as quality and flavour are concerned, not equal by some points to Nouvelle Fulvie. Like the latter, it is a most accommodating variety with regard to the conditions of growth. It succeeds well as a bush, pyramid, or a standard in the orchard. It is a handsome Pear, and well worthy of extended cultivation. Care must be taken not to gather the fruits too soon; even a few degrees of frost will not

hurt them while on the tree. As this variety sets very freely, timely thinning of the fruit must be attended to.

Windsor.

OWEN THOMAS.

STANDARD APPLE TREES.

A good specimen of a standard Apple tree is shown in the illustration on page 172. It is one in an orchard of 700 or 800 similar trees planted about eight years ago. This tree shows well the shape and form of the main branches, so disposed that each has plenty of light and air. The one illustrated, as well as all others in the orchard, is upon the Crab stock, and they are, as may be seen, planted on grass land. They are now well established, and bear fairly heavy crops of fruit annually.

An important point to be observed in the treatment of standard trees on grass land is to cut away the grass for a distance of 2 feet or 3 feet from around the base of the tree. A surprising difference is noticeable between trees so treated and those around which the grass is allowed to grow quite to the stems. It is obvious that by following this latter method the grass itself must withdraw a certain amount of nourishment from the soil and that also where the principal feeding roots of the trees are to be found. Especially during dry, hot weather is this proceeding harmful, for moisture that otherwise would be absorbed and is probably badly needed by the roots of the fruit trees is appropriated by the grass roots. One cannot mulch satisfactorily either. The manure applied, instead of benefiting the Apple trees, simply has the effect of making the grass grow all the more strongly, thereby enabling its roots to do greater harm even than before. With, however, the ground clear for a distance of 2 feet or 3 feet, one can give a good covering of manure, knowing well that the fruits alone will receive the full benefit of it. The soil is also kept moist by such a covering, thereby enabling the roots to better support the growing tree during the summer months.

In the orchard in question the trees are planted 16 feet apart in the rows, and the rows are 32 feet wide. This is an excellent method, for the object is, when the tree shall have

become almost fully grown, to remove every other one in the rows, thus finally leaving each tree an equal distance (32 feet) apart. One has the advantage of an additional amount of fruit over a period of twenty years or so, and the satisfaction of knowing that valuable space is utilised. It is probable that the majority of the trees will have to be destroyed when the time comes for removing them, unless it can be arranged to move a few every year over a number of years, that is, if they were worth the trouble and expense that the work of transplanting large trees entails. A great deal would, of course, depend upon the condition of the latter at the time, some there might be not worth removing owing to disease, stunted growth, bad bearing qualities, &c. The tree in the accompanying photograph is of the variety Lord Burleigh, a splendid Apple for growing as a standard. Others suitable for this purpose are Christmas Pearmain, Dutch Mignonne, Rosemary Russet, The Queen, Duke of Devonshire, Golden Spire, Scarlet Russet, Margil, and Fearn's Pippin.

T. W. F.

NEW AND RARE PLANTS.

PHAIOS-CALANTHE SCHRODERIANA.

THIS charming hybrid, the result of a cross between *Calanthe Baron Schröder* and *Phaius Wallichii*, has sepals and petals of a pale sulphur colour, slightly suffused and streaked at the base with pale crimson, and the lip is of a fine deep crimson. Exhibited by Messrs. J. Veitch and Son, Limited, Chelsea. Award of merit.

SOPHRONITIS ROSSITERIANA.

A LOVELY flower, of an exquisite shade of pale orange. The sepals and petals are almost of exactly the same shade; the latter are broad, and the lip is small. This is a variety of the well known *Sophronitis grandiflora*. Exhibited by Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (Orchid grower, Mr. W. H. White). First-class certificate.

LÆLIO-CATTLEYA WARNHAMIENSIS.

THIS beautiful hybrid between *Lælia cinnabarina* and *Cattleya Trianae Normanii* has sepals of an

apricot colour, while the petals are of a lovely soft purple-apricot tint, the lip being of velvety crimson, and the throat almost the colour of the sepals. It received an award of merit about a year ago. Exhibited by Mr. C. J. Lucas, Warnham Court, Horsham (gardener, Mr. G. Duncan). First-class certificate.

ODONTOGLOSSUM CORADINEI MRS. DE B. CRAWSHAY.

THE sepals and petals of this somewhat sombre-looking variety have a pale yellow ground colour, which is heavily blotched with chocolate-red. The raceme shown was evidently from a vigorous plant, for it carried no less than eleven flowers and buds. Exhibited by Mr. J. S. Moss, Wintershill, Bishops Waltham (gardener, Mr. C. Kench). Award of merit.

DENDROBIUM RUBENS GRANDIFLORUM.

THE flowers of this hybrid are of a beautiful shade of colour. The sepals and petals are tinted with deep rose-purple; the lip has a pale sulphur ring around its purple centre; the extreme edge of the lip is also tinged with rose. This hybrid is the result of a cross between *D. splendidissimum grandiflorum* and *D. nobile nobiliss.* Exhibited by Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (Orchid grower, Mr. W. H. White). Award of merit.

ODONTOGLOSSUM ADRIANÆ MRS. ROBERT BENSON.

THIS is a very handsome variety, the sulphur-yellow petals and sepals being heavily spotted with chocolate-red. It is a natural hybrid between *O. crispum* and *O. hunnewellianum*. The flower is of splendid form; the sepals and petals with crinkled edges are very symmetrical. Exhibited by Captain Holford, Westonbirt, Tetbury (gardener, Mr. Chapman).

APPLE DIAMOND JUBILEE.

THIS is a new culinary Apple of handsome appearance, broadly conical in shape, with the eye deeply set. The colour is yellowish green, with the exception of the sunny side being tinged with light red. The fruit committee considered this variety to be so excellent that an award of merit was voted to it. Exhibited by Mr. A. J. Thomas, Rodworsham, Sittingbourne.

APPLE SCARLET NONPAREIL.

ANOTHER old and well-tried variety, one of the best and most hardy winter Apples in cultivation, broadly ovate in shape, reminding one somewhat of Cox's Orange Pippin; the stalk is very thick and short, and the fruit is well coloured. Exhibited by Earl Beauchamp, Madresfield Court Gardens (gardener, Mr. W. Crump). Award of merit.

* * * All the above were shown before the Royal Horticultural Society at the Drill Hall, Westminster, on Tuesday, February 26.

EDITORS' TABLE.

"THE LARGER NETTED IRIS."

Messrs. Kelway and Son, Langport, Somerset, have kindly sent blooms of this charming early spring flowering Iris, *I. reticulata major*. It is a flower of exquisite colouring, violet-blue, marked with white and gold, and, moreover, sweetly scented. *I. r. major* is an improved form, much larger than the type and a stronger grower. Messrs. Kelway write that this beautiful Iris is now in full flower in the open borders at Langport.

PRIMULAS FROM CHELSEA.

We have received from Messrs. James Veitch and Sons, Limited, Royal Exotic Nursery, Chelsea, a collection of Chinese Primula blooms. These are



PEAR OLIVIER DE SERRES (TWO-THIRDS NATURAL SIZE).

so distinct and of such lovely shades of colour that we give a description of each variety. Gigantic Rose is well named, the flowers are very large, the prettily notched petals soft rose, the eye being symmetrical and of a good yellow. Double Salmon is a most pleasing tint, salmon slightly tinged at the edges with rosy purple. Mauve is one of the deepest of its kind we have yet seen, the exquisite colouring reminds one of that in the lip of a Cattleya. Fringed White is a somewhat flat bloom, whose petals are beautifully fringed, and of a pure white colour. Double Crimson and Chelsea Crimson are both good colours, true crimsons. Chelsea Rose is a smaller counterpart of Gigantic Rose, but that the edges of the petals are more deeply fringed. The stellata hybrids—i.e., those obtained between the Star Primulas and the Chinese varieties—also comprise many beautiful flowers, showing well the great improvement that has been made upon the original *P. stellata* within the last few years.

A FINE CHRISTMAS ROSE.

Mr. Elwes sends from Gloucestershire some blooms of a very fine Christmas Rose, with stalks 16 inches in length. A letter accompanying the flower says that it was grown from Mr. Max Leichtlin's seed. Mr. Elwes thinks the more highly of these seedlings as his soil is too light for the general well-being of *Helleborus niger*.

ROSE SHOW FIXTURES IN 1901.

- June 12 (Wed.).—York.†
- „ 26 (Wed.).—Richmond (Surrey) (N.R.S.)
- „ 29 (Sat.).—Canterbury and Windsor.
- July 2 (Tues.).—Drill Hall (R.H.S.) and Southampton.*
- „ 3 (Wed.).—Hanley.*
- „ 4 (Thurs.).—Temple Gardens (N.R.S.)
- „ 9 (Tues.).—Gloucester, Harrow and Wolverhampton.†
- „ 10 (Wed.).—Worthing.
- „ 11 (Thurs.).—Bath, Brentwood, Eltham, Helensburgh, and Woodbridge.
- „ 17 (Wed.).—Ulverston (N.R.S.) and Cardiff.*
- „ 18 (Thurs.).—Halifax.
- „ 20 (Sat.).—Newton Mearns.
- „ 23 (Tues.).—Tibshelf.

* Shows lasting two days.

† Shows lasting three days.

The above are the only fixtures definitely arranged that have as yet reached me. I shall be glad to receive the dates of other Rose Shows—or Horticultural Exhibitions where Roses form a leading feature—for insertion in future lists.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

INSECT PESTS.

THE VINE WEEVIL.

REFERENCES are not frequently made to this enemy of the Vine, and it may be concluded that its attacks are not very common. When in matured condition this beetle is about three-eighths of an inch in length, has six legs, and is almost black in colour. It has invaded at the present time a house of young Vines here, and I have on one previous occasion had experience with it, but in both instances its attacks were slight. Judging from its behaviour, however, I can imagine that if it was present in great numbers, for it is a virulent little creature, it might soon do much mischief, unless effectual measures were adopted to prevent it. When in a fully developed or perfect insect state, it feeds upon the leaves and the stalks of young bunches of Grapes, and as it does this at night, secluding itself during the day upon the surface of the border or in crevices in the walls, its presence might be easily overlooked by any one unacquainted with it or its habits, and the injury it inflicted attributed to the cockroach or the cricket. The larvæ develop in the soil, and remain several weeks. When numerous much

injury is done by feeding upon the roots of the Vines. Whilst in this grub state it is difficult to thoroughly battle with it without damaging the roots, although the matured insects are more easily dealt with, and in our case, the Vines being young, we simply search for them by the aid of a lamp, and find no difficulty, as they remain quiet, in picking them from the leaves. In vineries possessed of matured Vines, or in cases where weevils are very numerous, this would not be so readily done, but by stretching sheets of tiffany over the borders and sharply tapping the canes, the insects are caused to fall, and can be easily captured. They may also be prevented from ascending the Vines by placing a band of cloth smeared with sticky grease round the bases of the latter.

The Hendre Gardens.

THOS. COOMBER.

United Horticultural Benefit and Provident Society.

The annual meeting of the above society will be held at the Caledonian Hotel, Robert Street, Adelphi Terrace, Strand, W.C., on Monday evening next, at eight o'clock. Mr. W. Rouppell will preside.

Educational Flower Show.—In *The Woman's Agricultural Times* details are given of a new exhibition to be held at the Crystal Palace on August 16 and 17, in connection with the One and All Industrial Flower Show. The idea embodied in the proposal is to organise an annual reunion of all the friends interested in agricultural and horticultural education. The Countess of Warwick will offer a handsome trophy to be competed for by students for the honour of the class or institution with which they are connected.

Flowers from the Scilly Isles.—The flower farms of the Scilly Isles are now in full beauty, and, despite storms and wet weather, appear likely to yield an abundant harvest of blooms. No less than twenty-seven tons of flowers were shipped from the islands' shores on Tuesday last, and as each package weighs only a few pounds, some idea may be formed of the enormous bulk these figures represent. The steamship was late in arriving at Penzance, where the huge floral consignment was smartly taken in hand by the Great Western Railway officials, and early in the evening a special express train containing nothing but flowers was speeding its way to the London, midland, and northern markets.

Society for the Protection of Birds (Winners of the Essays).—It may interest your readers to know the result of the prize essay competition of the Society for the Protection of Birds, which you were kind enough to announce in the columns of your journal in November last. Over 100 essays were sent in. The first prize (£10) has been awarded to Mr. J. J. Baldwin Young, of Sheffield; the second (£5) to Miss H. M. Capper, of Liverpool, and an award of two guineas presented to Mr. E. Hancock, of Southam, Rugby, for the excellent paper sent in by him.—MARGARETTA L. LEMON, 3, *Hanover Square, London, W.*

The Chino Valley, Southern California.—The climate of the Chino Valley, while adapted to the successful culture of a very great number of species of trees and plants, is subject to occasional frosts, wind storms, and very hot periods. Commencing June 9, 1896, and lasting for twelve days, the thermometer ranged from 90° to 110°; commencing July 7 and lasting fourteen days, 90° to 101°; there were in all nineteen days in July when the range was as above. In August there were twenty-two days when the thermometer ranged from 90° to 97° during the warmest part of the day. The average daily variation for the entire season was 3° higher than for any like period since the establishment of the station. Notwithstanding the fact that there had been but 8.78 inches of rain during the preceding winter, there were excellent crops of all kinds. All sorts of fruit trees made a good growth. During the season of 1895-96 there were 23 inches of rain, which left considerable moisture in the soil when the following rainy season set in. During the winter of 1896-97 there were no severe frosts, Citrus fruits and tender plants being almost free from damage. The summer of 1897 was not

excessively warm, there being but few days when the thermometer reached 100°. During the month of August, 1898, the thermometer ranged during the warmest part of the day from 91° to 108° for twenty-four consecutive days. This protracted warm weather following two dry winters caused a great deal of fruit to be undersized and poorly matured. Late varieties of Plums were sun-burned, and late Peaches were tough except where water was plentiful. Pears suffered to some extent, and Apples were badly injured, the bark in many cases showing signs of sunburn. On February 6, 1899, the thermometer fell to 22°, and considerable damage was done to Citrus fruits. Lemon trees were in some districts killed back to the large limbs. Extremely warm days during the winter months seemed to have hastened the opening of buds on most varieties of Peach and Plum trees. The effect was very marked on the European varieties of Plums and Prunes.

National Rose Society.—The honorary secretaries have much pleasure in announcing that Her Majesty Queen Alexandra has consented to continue to be the patroness of the society, a post which she had for many years held as Princess of Wales.

Diseased growth of Yews.—Mr. J. W. Odell exhibited before the scientific committee of the Royal Horticultural Society recently diseased specimens of Yews, and observed that Yew trees in his district (N.W. Middlesex) are very much disfigured by the formation of cone-like galls. These are due to the gall fly *Cecidomyia taxi* (Inchbald). The specimens were from several trees. On the young trees the gall seems to be more persistent than on the older trees. On the former the leaves forming the cones appear to recurve after the pupæ escape, assuming a rosette appearance, and beyond the arresting of the growth of the shoots affected no great harm seems to be done. On the older trees the cones and rosettes drop off rather freely, and this often gives a shabby look to the tree as the shoots die back and decay. Dr. Masters observed that these galls are commoner upon the golden-leaved varieties of Yew.

Honour for a Bristol man.—At the annual meeting of the Incorporated Society of Heating and Ventilating Engineers, held on Tuesday last at the Holborn Restaurant, London, Mr. George Crispin, of the firm of Messrs. James Crispin (F.R.H.S.) and Sons, horticultural engineers, of Bristol, was unanimously elected to the vacant seat on the council of the society. The council is composed of the most eminent heating and ventilating specialists in the United Kingdom, and Mr. Crispin is to be congratulated on such high honour.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday next, March 12, in the Drill Hall, Buckingham Gate, Westminster, 1 to 4 p.m. A lecture on "Climbers for Pergolas, Verandahs, and Walls," will be given by Mr. G. Davison at three o'clock.

Species and varieties of Crocus.—Mr. E. A. Bowles exhibited before a recent meeting of the scientific committee of the Royal Horticultural Society the following interesting series of Croci: The type forms and albino varieties of *C. reticulatus*, pure white, except for a line or two of greyish blue at the base of the segments and extending down the perianth tube. (For some years I could not identify this variety with certainty, until one bulb in 1899 reverted to a striped form identical with the *C. retic. v. albicans* of Herbert, figured in "Bot. Reg.," volume xxxiii., 16 (17), figure 2). 2, *C. Imperati*.—Pure white internally, externally pale buff, almost white, and richly feathered with deep purple on the outer segments. The seedlings raised from this form produce the typical *Imperati*, with diphyllous, proper spathe. 3, *versicolor*.—A form often confounded with *Imperati* and known as *Imp. v. albidus*. The inner segments distinctly show the feathering so characteristic of *versicolor*, the form of Maw's, plate xvi., figure 1, d. I have wild forms, collected near Mentone, which very nearly approach this, and, like this, have a ligulate inner proper spathe. 4, *C. biflorus v.*

Weldeni.—A pure white form, sold as Weldeni v. niveus and dalmaticus niveus. C. candidus.—Typical forms, white grained with blue externally, and the new yellow variety clear orange grained externally with purple. A very floriferous and beautiful form. C. cyrius.—A small blue species with rich purple bases to the segments on the outer surfaces. The only species that has scarlet filaments. It, unfortunately, appears to have a delicate constitution in cultivation. C. corsicus.—Proper spathe monophyllous. C. minimus.—Proper spathe diphyllous; both natives of Corsica, the former in mountainous regions, the latter in lower ground. C. reticulatus v. micranthus.—A small-flowered form, much deeper lilac internally. 5. Seedling varieties of *Crocus chrysanthus*, approaching most nearly to the v. *cærulescens*. It is the first year of flowering, and this perhaps accounts for the small blossoms. Two of these, internally, pure white with a bright orange throat; the outer surface of the outer segments are suffused with a rich crimson-purple with the exception of a narrow marginal band of a pale cream colour. The other has the outer segments sulphur-yellow, slightly paler on the inner surface, and grained with dull purple down the centre on the outer surface. The black spot at the base of the bars of the anthers, so characteristic of *C. chrysanthus*, is present in this form and one of the former, but absent in the third specimen.

Double Tulips.—At a recent meeting of the Royal Horticultural Society Mr. Houston exhibited and commented upon an early double Tulip, pointing out that the filaments of the stamens became petals (as in the Water Lily), and that from his experience a dry poor soil appeared to be conducive to the process of doubling. Stock seed, for instance, gave 90 per cent. of doubles under those conditions. On the other hand, Mr. Wilks observed that *Papaver Rhæas* became double in a rich garden border, but rarely, if ever, so in the wild state. Professor Boulger remarked that he had found *Ranunculus acris* and *Geum rivale* double in moist places; *Cardamine pratensis* has also occurred double in similar situations. Mr. Douglas's experience was that Carnations raised in pots gave many more doubles than when in the open border, only 10 to 12 per cent. being single. This would seem to agree with Mr. Houston's experience. Mr. Henslow drew attention to the fact that it was long ago asserted by Mr. William Masters that a suspension of vitality must take place before a flower is formed, whether single or double; that mere vegetative vigour is not the cause of doubling, but that when once the doubling has been developed and, as Mr. Masters said, "is constitutional or in the blood," then abundant food will favour the development of double flowers. Mr. Masters gives the following instance in the case of Balsams:—"One year we did not pot off from the seed pots for many weeks after they were ready. They were, in fact, starved before being transplanted, and only produced single flowers. I treated them liberally, and they then bore flowers as double as could be wished." Mr. G. Duffield some years ago produced double *Lapagerias*, and remarked that both a white and a red-flowering plant, growing side by side, bore double flowers in the same year, and remarked that it seemed curious, as the plants were by no means remarkable for vigour. This, however, was apparently the cause. Mr. Laxton has also observed with regard to double Peas:—"I am of opinion that a check during the growth of the plant, either from drought, frost, or even injury to the stem, may produce it. Hitherto all the double-flowered forms have been produced later in the season, just as late or second blossoms of Apples and Pears are frequently semi-double, while the early flowers of zonal *Pelargoniums* have often from six to ten petals." From Gosbell's observations double-flowered Stocks can be raised from seed of single-flowered, up to 90 per cent., if the smaller and abnormally formed seeds are selected. Other testimony of a similar kind might be quoted in corroboration.

The Sherwood Silver Cup.—This cup, value £10 10s., is given annually by Mr. N. N. Sherwood, V.M.H., to some meritorious exhibit

brought before the Royal Horticultural Society, and Mr. Sherwood leaves it to the council to determine the kind of exhibit it is to be offered for. This year, at the Temple Show, it is offered for the best collection of Orchids shown by an amateur, the space not to exceed 100 square feet. Those who intend to compete must send in notice not less than eight days before the competition to the secretary, Royal Horticultural Society, 117, Victoria Street, S.W. The Temple Show takes place on May 22 next and two following days.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

PROFESSOR HENSLOW'S LECTURE, FEBRUARY 26.

Professor Henslow had quite a large audience to address on "Making and Unmaking of Flowers," a subject which admitted of very diverse treatment. Prior to the lecture the large number of fifty-seven new Fellows were duly elected. The lecturer said that the display in the hall showed remarkable variety in flower promotion. It was once held that all flowers were as originated, but that fallacy was now exploded and the principle of evolution accepted. It was very difficult to trace geologically the history of plants, but possibly a tiny club moss, a drawing of which was shown, might be regarded as an example of primeval vegetation. This had no flowers, but mere clusters of spores as its means of propagation. Next came that section of vegetation as found in Yews, Junipers, and Firs. Drawings of the flowers of these on a magnified scale were shown to evidence their somewhat crude methods of fertilisation. Other plants were referred to for the same object. The question was when and how did Nature clothe flowers with their now ordinary attributes. There was in the Juniper a foreshadowing of this process, which was technically described. Drawings of different forms of ovules were shown, showing the petals in process of development. They could not find any real link in the long chain of evolution, but in the Australian *Casuarina* there was some evidence of such existing. Another affinity was found in the Sweetgale of our own mountains.

An *Anemone* showed the calyx in a highly floriferous form, but there was no real corolla. Neither had the Christmas Rose such, though there were honey tubes. Buttercups gave a clue, the bottom petals being developed from honey pots, the irritation caused by insects in extracting the honey possibly being the primary cause, and in this way the evolutionary theory was evidenced. In the Water Lily there was evidence of the development of anthers into petals. The parts of flowers were metamorphosed leaves, not that they were leaves, but they might have been had not they been in the process of nature converted into flowers. Leaf examples as drawings were shown of Laurel, Sycamore, Privet, &c., showing how their placing on lateral and on vertical stems varied. In some Monocotyledons the leaves were arranged in trebles, like whorls, and in others one over the other, as shown in various illustrations of branches. The *Stork's-bill* apparently had formerly ten stamens, now it had but five. In a *Primrose* the stamens are just in front of the petals, which was not a common feature, and there were others that it seemed as if Nature had suppressed. In a *Wallflower* there were certain features which rendered fertilisation by insects easy. They first came for pollen, there was then no honey; but the insects thrust their trunks into the stalks of the flowers after moisture, to assist in solidifying the pollen, another set up irritation, which ultimately resulted in the creation of honey. In the *Columbine* was found a floral example where the spurred form reverted to a spurless variety having no honey but when irritated by insects. The spur redeveloped all of what are termed by botanists irregular flowers, emanated from regular ones. All the leguminosæ family had irregular flowers, but seemed to have descended from a regular flower like the Rose. Insect action had caused this irregularity. The Dead Nettle was another example, so also the Snapdragon and the *Salvia*. Botanists will not admit that in flower development anything is done in advance of need, but that as insects operate in flowers so have developments resulted to meet their requirements. The lecturer gave towards the close various illustrations of flowers that have undergone more or less the process of "unmaking." Amongst others he referred to the seed or female flowers of the Violet, produced in summer in great abundance, and seeding freely, whilst the true petalled flowers produced no seed. The lecture throughout was of a highly technical nature. It was abundantly illustrated with drawings of embryo and other flowers and useful features. The lecturer was heartily thanked.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

(BERKSHIRE, READING, AND DISTRICT AUXILIARY).

The first annual meeting in connection with the above auxiliary, which was held on Friday evening, March 1, in the Gardeners' Club Room, Old Abbey Restaurant, Reading, proved a very successful one. The president, Mr. C. E. Keyser, occupied the chair, and was supported by the treasurer, Mr. Arthur W. Sutton, Mr. Martin H. F. Sutton, and by Mr. Harry Veitch (treasurer of the parent society), Mr. Owen Thomas of the Royal Gardens, Frogmore, and Mr. G. J. Ingram (secretary), as a deputation from the London committee. There were also present many of the leading gardeners in the neighbourhood, including Messrs. Stanton (Henley), Neve (Sindlesham), Woolford (Wokefield), C. Ross (Welford, Newbury), Galt (Aldermaston), Pope (Wargrave),

Kitt (Wasing), Wright (Bucklebury), Thatcher (Mortimer), Gosling (Goring), Barnes, Tegg (Beeboard), Townsend (Wellington), Fulford (Cockham), Lees (Earley), Osborn (Three Mile Cross), Wise (Blackwater), Tubb, Proft (Minley, Farnborough), Fry, Eyler, Wilson, G. Smith, Bennett, Lever, Pigg, Hinton, Moody, Hawkins, the hon. sec. (H. G. Cox), &c. After the annual report and balance-sheet had been read and adopted, Mr. Veitch congratulated the members on the great success that had attended their efforts during the past sixteen months, enabling them to raise since the formation of the auxiliary over £130, and in hopeful terms spoke of the bright future there appeared to be in store for the Reading branch. The election of officers was proceeded with, and Mr. C. E. Keyser was unanimously re-elected president for the second year, with Mr. A. W. Sutton as hon. treasurer and Mr. H. G. Cox hon. secretary. With the exception of three or four members who had left the district, the committee were re-elected, with the addition of Messrs. Barnes, Macdonald, Nichols, E. S. Pigg, Harris, Tubb, Hatton, and Gibson.

A very warm discussion ensued during the meeting as to the privileges granted by the institution to life members and "fifteen years' subscribers," and to the necessity there was of supporting the parent institution by annual subscriptions, one speaker pointing out that there was in the future, say fifteen or twenty years' time, a probability that if life members were made at the present rate for another few years the institution would not be able to meet its liabilities. Messrs. Veitch, Thomas, and Ingram made some very interesting remarks on the subject, directing particular attention to the fact that the institution was a benevolent and not a benefit society, and each thanked the members for bringing such an important matter before them. A vote of thanks to the deputation and to the chair brought to a close a meeting described by the deputation as one of the best representative meetings ever held in connection with the institution.

REPORT OF THE COMMITTEE.

In presenting their first report, the committee of the Berkshire, Reading, and District Auxiliary of the Gardeners' Royal Benevolent Institution have much satisfaction in being able to congratulate the members and subscribers on the success that has attended the work of the auxiliary during the first sixteen months of its existence.

The inauguration meeting was held in the Abbey Hall, Reading, by kind permission of Messrs. Sutton and Sons, on May 16, 1899, and was largely attended. Mr. Arthur W. Sutton, V.M.H., occupied the chair. The meeting was addressed by Messrs. H. J. Veitch, Owen Thomas, V.M.H., and G. J. Ingram, the deputation from the general committee of the parent institution, and also by Messrs. C. E. Keyser, C. B. Stevens, L. G. Sutton, &c.

As the balance-sheet will show, the auxiliary has raised during the period it has been in existence £135 16s. 6d. Of this sum, £102 19s. has been remitted to the parent society, leaving a balance, after allowing for working expenses, of £23 11s. 1d. Of this balance, £21 will be devoted during the current year to assisting four more members of the auxiliary to become life members of the parent institution. It is most gratifying for the committee to be able to report that of the total amount raised by the auxiliary (£135 16s. 6d.) so large a proportion as £112 14s. 6d. may be considered as entirely additional support to the institution, consisting of donations and subscriptions which would not have reached the parent association had it not been for the formation of our local auxiliary.

The committee beg to tender their sincere thanks to the deputation which attended the inauguration meeting, and to all friends who have helped to make the auxiliary a success.

The balance-sheet from September 1, 1899, to December 31, 1900, shows a balance of £23 11s. 1d., the sum of £103 19s. having been remitted to the parent society.—Signed, on behalf of the committee, ARTHUR W. SUTTON, Honorary Treasurer; H. G. COX, Honorary Secretary.

BECKENHAM HORTICULTURAL SOCIETY.

On February 22 a paper on "Vegetables for Exhibition" was read by Mr. Edwin Beckett, gardener to Lord Aldenham (winner of two gold medals, 1897 and 1899, from the Royal Horticultural Society for vegetables; and winner of the Sherwood silver cup, 1899).

Mr. Beckett attributes a great deal of his success to deep trenching, advising the ground to be broken up at least 3 feet, bringing the bottom soil to the surface, to which should be added a good dressing of farmyard manure. Seed sowing, thinning, hoeing, watering, and preparing the specimens for the show table were dealt with in a masterly way. At the close the lecturer was accorded a very hearty vote of thanks.

LIVERPOOL HORTICULTURAL ASSOCIATION.

A HIGHLY interesting and instructive lecture was delivered by Mr. R. W. Ker, on Saturday last, on the "Sweet Pea Conference" and "My Russian Journey," each subject being beautifully illustrated by a large number of excellent limelight views, those in connection with the conference being shown through the kindness of the proprietors of the *Gardeners' Magazine*. Mr. Ker introduced his subject with a brief historical account of the Sweet Pea, its growth in popular favour, culminating in the magnificent display at the Crystal Palace, which, the lecturer stated, surpassed the expectations of the executive; the various forms of staging were noted, with a recommendation that the most approved foliage for interspersing with the blooms was its own, sparingly used. In addition to the many views of the various exhibits, photographs of many of the workers were thrown on the screen, including that of Mr. G. Gordon, chairman of the committee, and Mr. Eckford, who had proved himself the leading authority by his many beautiful introductions.

The continental journey included visits to St. Petersburg, Moscow, Potsdam, and Berlin, the great horticultural show at which Messrs. Ker officiated as adjudicators received unstinted praise with regard to the exhibits and the finished

style of staging. Roses in pots were a great feature, from 2 feet to 4 feet across with fine blooms and in the pink of perfection; other plants included Palms, Cyclamens, Lily of the Valley, Liliun Harrisii, Rhododendrons, Lilacs, Orchids, &c., all in quantity and grand in quality.

The cordial reception tendered to visitors from England was much appreciated, the review of an army of 20,000, the visits to the various palaces, the customs of the people, &c. The views, which were well shown, added greatly to the interest of the lecture. At the conclusion Mr. T. Foster, chairman of the committee, who presided, tendered to the lecturer the cordial thanks of the meeting for the admirable lecture and interesting details.

BRISTOL AND DISTRICT GARDENERS' ASSOCIATION.

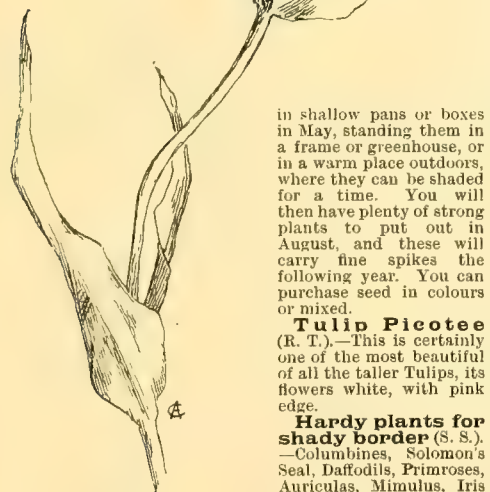
The fortnightly meeting of the above society was held at St. John's Parish Room, Redland, on Thursday, February 23, Mr. G. Brook presiding.

The paper was provided by Mr. McMillan, of Stoke Bishop, on the "Management of Wall Trees," it being the essay which secured the first prize in a competition for prizes offered by Mr. W. A. Garaway to under gardeners. Mr. McMillan dealt with the subject in a manner that won the commendation of his audience, treating in his paper the culture of the Peach, Nectarine, Apricot, Fig, Plum, Cherry, Pear, Apple, &c., giving in each case his opinion as to planting, training, disbudding, pruning, and the treatment of insect pests. A good discussion followed and the cordial thanks of the meeting were voted him. Prizes offered for two pots of Narcissus were secured by Messrs. Price, McCulloch, and Lewis. Certificates of merit were awarded Messrs. Frampton (Primula), White (P. atyclinis glumacea), and Murrell (collection of Orchid blooms).

ANSWERS TO CORRESPONDENTS.

FLOWER GARDEN.

Hollyhocks (S. S. T.).—If you could obtain some strong plants from a sowing made last summer and would put them out into good deep, well-manured soil, you should then have them to bloom well towards the autumn. If you sow seed at once, and can raise it quickly into plants in warmth, grow the seedlings on in single pots or in boxes, plant them thuly in a frame until the middle of May, and then plant them out, you should be able to get some to flower late in the autumn. The simplest way to get Hollyhocks to bloom strong in the summer is to sow seed



TULIP PICOTEE.

in shallow pans or boxes in May, standing them in a frame or greenhouse, or in a warm place outdoors, where they can be shaded for a time. You will then have plenty of strong plants to put out in August, and these will carry fine spikes the following year. You can purchase seed in colours or mixed.

Tulip Picotee (R. T.).—This is certainly one of the most beautiful of all the taller Tulips, its flowers white, with pink edge.

Hardy plants for shady border (S. S.).—Columbines, Solomon's Seal, Daffodils, Primroses, Auriculas, Minulus, Iris sibirica, I. ochroleuca, nearly all Lilies, hardy Ferns, Doronicums, Michaelmas Daisies,

Pyrethrum uliginosum, Monarda, Tritonia, and herbaceous Spiraea. Against the wall, Rubus deliciosus, Guelder Rose, and Clematis montana. It is presumed that there is no Ivy or other ground-robber already against the wall.

Cockscombs (OTHERNE).—These once highly-favoured pot plants seem to be but little in favour now, although it is easy to get mixed strains which contain several quite distinct colours. Probably the great improvement seen in the feathery Celosia plants allied to the Cockscumb and raised from seed in the same way, and which are so very much more beautiful in every respect, has done much to destroy the old fondness for the Cockscumb. Very fine as the combs often are, they are yet very solid, formal, and hard in appearance, whereas the branching, feathery Celosias are singularly pleasing and graceful. Cockscumb seed may be sown now quite thinly on fine, sandy soil and just buried

in pots 5 inches across, and be stood in warmth to assist good germination. So soon as the seedlings are 2 inches in height they should be lifted and be put singly into very small pots, where they may remain until incipient combs are formed. Then they may be shifted into larger pots, the plants being kept well down to make them dwarf.

Camellias in the open (CANNELLIN).—We are not surprised to learn that you feel interest in this subject, for it is one that merits much consideration. We do not advise planting Camellias on stiff soils, and where there is a fairly porous loam it is well to add a proportion of one-third peat soil before planting; but there are myriads of places where Conifers, Rhododendrons, Azaleas, Kalmias, and many other things do well, where Camellias, if planted as ordinary shrubs, will thrive. Their positions should not be wind swept, but be rather sheltered by trees and other shrubs, yet not be too much exposed to glaring hot sunshine in summer. Still, ample light and air is needed to enable the summer shoots to thoroughly ripen and develop bloom-buds; but too often, and no doubt it was so in the case to which you refer, plants that have been kept in pots several years, and have become root-bound, possibly also somewhat stunted in growth, are planted out, and it is no matter of surprise if these take several years to pull round and become sturdy shrubs. To treat Camellias for outdoor planting properly, plants should be kept from heat whilst quite young, be seasoned in a cold greenhouse for the winter, then be planted outdoors about the middle of May just as the new shoots are being made, because those will cause the roots to be active also. Then there is no stagnation. It is beneficial in planting to add to the soil just a little of old hotbed manure and some well-decayed leaf-soil. Once plants are well rooted, they fight their own battles bravely. Few shrubs are hardier, and as outdoors the summer growths are not made until the first season is over, no harm is done to the tender shoots.

Hardy climbing Roses for verandah (E. M. D.).—For your exposed verandah we should advise you to plant Aglaia, Flora, and Félicité-Perpétue. They are rapid growers, quite hardy, and would make a lovely trio. If you desire a crimson kind, although not so vigorous as those named, either of the following could be planted to cover the lower part of the verandah, namely, Vivid, Fulgens, or Cheshunt Hybrid. Wistaria sinensis would be a capital climber for this verandah, as would Periplocagrea and the double pink Bramble, especially as you already possess Honeysuckle, Clematis, and Jasmine.

TREES AND SHRUBS.

Cape Silver Tree (A. M.).—The plant enquired about is the Cape Silver Tree, botanically known as Leucadendron argenteum, which forms one of the most conspicuous trees natives of the southern portion of Africa. As they do not lose any of their silvery colour when dried they are frequently brought home by visitors to that part of the world; indeed, these leaves with flowers of some everlastings form quite an article of export from the Cape, and in the florists shops of London they may be often seen employed in the formation of wreaths, crosses, &c. This Leucadendron was first introduced over two centuries ago, viz., in 1693, but outside of a botanic garden it is very rarely seen, and we do not know of any nursery where you could obtain it. There is a good specimen (or was quite recently) planted out in the Cactus house at Kew. The Leucadendron needs, of course, a greenhouse temperature, but its cultural requirements are more exacting than many other plants in the same structure. A light, airy position, such as is necessary for Cape Heaths, will suit it well, and it needs good drainage, a compost consisting principally of sandy peat, and careful watering, particularly observing that the soil is not allowed to get too dry. In order to induce the leaves to assume their brightest tint the plant needs full exposure to the sun (it can be plunged out in the summer), but even then the leaves, though very striking, are less dazzling than those produced under the brilliant South African sky.

INDOOR GARDEN.

Standard Fuchsias (HESTON).—To get rapid growing plants obtain tops or shoots from plants that have been wintered in a greenhouse and break freely early in the year. When these shoots are 3 inches long and are taken off with a little heel attached, are set thickly into pots filled with sandy soil, then stood in good warmth, rooting and growth soon follows. Later put singly into small pots and grow on. Kept in warmth they send up straight stems. Side shoots should be pinched to about three leaves. When the leading shoot or point of each plant throws flowers pinch it there, and cause a fresh leader to break, and then continue treating the plant until it reaches a height of 3½ feet. Then it may be pinched and encouraged to throw three or four shoots at the top. These shoots again pinched or shortened back will cause others to break, and then a good head is formed with a stout stem to support it in two years. These standard Fuchsias are very ornamental if sunk in their pots up to the rims in beds or in turf, especially where they are sheltered from their wind.

KITCHEN GARDEN.

Early Cabbages (OSMAN).—If you had one or more of some quite small early Cabbage, such as Ellam's or Flower of Spring, put out into good ground some 14 inches apart and early in September, you should have heads turning in now and fit to cut. As it is, your stock of a late Cabbage will probably, because they run large, not heart in fit for cutting until May. Such a variety we should certainly allow to remain on the ground after the heads are cut, because you would obtain from it for some eight or more months after a great crop of Sprouts that would be very useful. In the case of the smaller headed varieties that turn in so early it is best on the whole to pull them up as the cutting proceeds. The ground is then clear and ready to receive a succeeding summer crop.

Sowing Cress (A. M. S.).—There is only a slight difference in the time between Mustard and Cress if the

seeds are sown on the surface of the soil, not covered. Many cover with soil; this is not needed. Merely make surface smooth and firm and cover the seed after sowing with sheets of paper. If the Cress is covered and the Mustard exposed, both will be in together, or you may cover with glass instead of paper sheets. Many fail with Cress owing to the seeds being covered too deeply with soil. If the seeds are merely pressed in the soil, that is sufficient. All the Tomatoes you name are considered smooth varieties. Perfection being the best in that respect, but even smooth kinds are a little ribbed at times with diverse culture, especially if you feed too much.

FRUIT GARDEN.

Fruit growing in pots (WILLIAM CUNNINGHAM).—We fear unless you have had some previous experience of pot fruit trees you will not have great success. You do not tell us how you intend to grow them, if with any protection. Trees with glass protection would give a greater choice of varieties. You say "in the open air," but as regards the Vine this is difficult unless it is grown against a wall for warmth, as in your county the fruit would fail to ripen thoroughly unless you gave some protection. The Messrs. Rivers of Sawbridgeworth grow the Grape Vine and other fruits specially for pots, but they give some assistance during growth. The White Muscadine is one of the best for open air culture; another also, called Chasselas Vibert, is very good; the best blacks are Esperiole or the Black Cluster and Gamay Noir, the latter a smaller berry, and this is the variety grown so largely in Lord Bute's vineyards at Cardiff. Cherries, again, need a little care; they set badly in pots if neglected. Here there is no lack of variety, Early Rivers, Archduke, Royal Duke, Bigarreau Napoleon, Frogmore Bigarreau, and Black Tartarian are all good. Of Apples, Bifon is a good pot fruit, also Bismarck. Pears are plentiful, such kinds as Conference, Jean Van Geert, Princess, and Louise Bonne of Jersey are good in pots; and such Plums as Early Prolific, Transparent Gage, Jefferson, and Golden Drop are the best.

MISCELLANEOUS.

Manuring Lawn (BARONESS R. K.).—From the description you so lucidly give of the soil and climate of your Bohemian locale, we should assume that grass, as lawn base, would need very little artificial dressing. Here in England it is needful, except where the soil is very thin and poor, to be chary of employing too much dressing lest not only coarseness of texture in the grasses but too abundant growth results. Very much, of course, with us depends on the quality of soil and nature of season, whether very dry or otherwise. With us also the favourite applications to lawns needing renovation are soot, given liberally twice or thrice in the winter, to well wash in, and basic slag applied at the rate of 6cwt. per acre, dressed over in the late autumn. An addition of 4cwt. of sulphate of ammonia in the spring, April or May, proves to be a remarkable stimulus to follow with. If you dress your lawn with burnt ashes these should first be run through a screen to remove all coarse matter. To each barrow-load of ashes add half a bushel of soot and one pint or pound of Peruvian guano, if employed to dress one rod 5½ yards square; but if made to dress two rods then add one pound more of guano. It would have been better to employ such a dressing earlier lest the coarser material interfere with the mowing. Possibly it would be best now to use the soot and guano only. If so, employ 10cwt. of soot and 2cwt. of guano, or say 5cwt. of the latter if used alone per acre. You seem to have made a good selection of grasses, but so much depends on the quality of the soil and general climate. We echo your encomium of the beauty of a nice off-mown lawn; without doubt it is one of the most beautiful features of any pleasure or flower garden.

Arsenical weed killer (T. T. HENBURY).—The arsenical compound you enquire for that is sold for the destruction of weeds on garden walks is known as Weed Killer. If you will turn to the advertisement pages of THE GARDEN you will find mention of this weed killer and where it can be obtained. It is really cheap, as a small quantity may be mixed with so many gallons of water. The Weed Killer is a patent poison, and can be purchased only from registered chemists or their acknowledged agents. It is sold in metal drums of one gallon bulks upwards. The mixing may be done in a watering can kept specially for the purpose. This should have a rose head or spreader. The greatest care must be exercised in using it to keep it from touching Grass, Box, or other line edgings. If you purchase, full particulars will be enclosed.

QUESTION.

Name of secretary of society.—"F. G. H." would be obliged if anyone would give information respecting the "Parkinson Society of Lovers of Hardy Flowers," and name of secretary, if the society is still in existence.

CATALOGUES RECEIVED.

Farm Seeds.—Messrs. Toogood and Sons, Southampton; Messrs. Kent and Bruden, Darlington; Messrs. E. P. Dixon, Seed Merchants, Hull; Messrs. Dickinsons, Royal Seed Warehouses, Chester; Messrs. Cooper, Taber, and Co., 90-92, Southwark Street, S.E.

Fruit Trees.—Messrs. W. Horne and Sons, Perry Hill, Cliffe, Rochester.

Seeds and Plants.—Rivoire père et fils, Lyon. Trees and Hardy Plants.—Mr. Fred. W. Kelsey, 150, Broadway, New York.

Chrysanthemums.—M. M. Vilmoren-Andrieux, Paris. Florists' Novelties.—Messrs. Nathan Smith and Son, Adrian, Mich., U.S.A.

Vegetable and Flower Seeds.—Mr. Richard Dean, Ranelagh Road, Ealing, W.

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COLD STORAGE FOR FRUIT.

A WELL-KNOWN fruit grower writes us as follows about a question which must interest gardeners and market growers concerned in the cultivation of Apples :—

“The principles involved in the storage of fruit for long keeping in a very low temperature do not seem to have had a good trial in this country. It may be that fruit stored in a very low temperature in the same way that meat or roots can be treated would lose all its natural flavour. We believe the time will come when we shall be able to preserve Strawberries, Cherries, Plums, Pears, Apples, Peaches, and similar home-grown fruits with their flavour unimpaired all the year round, and even after several years of such storing. What a boon would that be to those fruit growers who complain so much of the excess and consequent waste of fruit when there is too much on the one hand and scarcity on the other, and how this means of preserving fruit would affect market prices !

“Much has been accomplished through the agency of cold storage, and what may be possible in the way of fruit remains to be seen. So far, in relation to our home fruit produce, the greatest strides have been made in prolonging the keeping season of Apples, Pears, and Grapes. Through the agency of heat much fruit production has been accelerated, but with respect to retardation little has been accomplished. We have long been familiar with the practice of cutting late-keeping Grapes and hanging the bunches in bottles filled with water in a dry room in which an equable but not a cold temperature prevails. Through this agency late keepers have been retained in good condition until the end of May, by which time new forced Grapes are ready, and thus the supply was endless. It was the boast of one of our old gardeners, who has long since passed away, that with forced Black Hamburgh to begin with, and Lady Downe's to finish with, he was never without good Grapes for his employer's table. It is not, therefore, unfair to conclude that in relation to cold storage Grapes hardly come within the range of that method of preserving fruit. The keeping of soft fruits over a limited period in at all desirable condition has not yet proved possible ; they are far too perishable. The greatest success has resulted with Apples and Pears, yet there is no proof—at home, at

least—that these fruits repay for cold, by which is meant frozen, storage. It is very doubtful indeed whether any of these will resist for any considerable time a temperature below 40° and yet retain their natural quality. So far all efforts to preserve them well late into the season have been directed to keeping them in an equable yet not necessarily very cold temperature, and especially in one that is partially humid, as a dry atmosphere is so absorbent of the fruit juices, and through such absorption causes shrivelling of the skins, a common feature in late-kept fruits. No considerable trade grower of Apples and Pears has shown us better how to keep these fruits late and sound than has Mr. George Bunyard, for the fruits that are occasionally exhibited by him from Maidstone are second to none in solidity, freshness, and general excellence. He makes no special effort to provide a low temperature. His reed-thatched fruit house is rather constructed to provide an even temperature, so that the fruits are not one day in a cold air of 30° or a few days later in an atmosphere 20° warmer and suffused in perspiration. The maintenance of an equal temperature is of the very highest importance. There the room floor is of soil, so that a certain amount of humidity can always emanate from it, and when that is found insufficient then the floor is occasionally sprinkled with water to supply that moisture in the air so essential for the long keeping of the fruits. But, even with these conditions furnished, one must remember that fruit to keep well must be well grown or ripened on the trees before it is gathered. Those are conditions found at Maidstone, and thus it is that fruit from that source is kept so late and in such splendid condition.

“Turning to a private garden where fruit is largely grown—and I may mention Madresfield Court, where Mr. Crump is the well-known gardener—here, too, excellent culture is provided and the fruits allowed to hang on the trees and finish perfectly. But the fruit store was formerly on the ground level and in the customary range of outbuildings, backing along a range of glass houses. Here for a time fruit kept fairly well, but with every possible care would shrivel later. To find a remedy a cellar store was dug out beneath this fruit room to a depth of some 7 feet. This was filled up with shelves, as in the room above, and fruit placed out in the same way. But the result has been altogether advantageous, for here, with a temperature that is singularly equable, and if not humid, not dry, both Apples and Pears

have kept remarkably well, the fruits being sound, plump, and rich in flavour. Is it possible with home-grown fruits to get beyond cool storage of this description ? What is the experience of other growers or dealers ? It would be interesting to know this. Practically the matter resolves itself into this question : ‘What is the lowest temperature home-grown fruits will endure without losing natural flavour and table excellence ?’”

CAMELLIAS IN THE OPEN.

IN reply to your correspondent “T. F.,” in THE GARDEN of February 2, I am sending you a few notes on the above subject. We planted our two first Camellias out of doors in April, 1881—one a plant of *Conspicua* and the other a pink *Ranunculus*-flowered variety. They were planted close to the mansion, sheltered from the north and east, have never failed to produce a fine crop of flowers each spring, and are now about 8 feet high and as much through. Finding these two doing so well without any protection, we planted out ten more in 1883, and have planted more or less each spring, until at the present time we have, large and small, one hundred and seventy-three plants out of doors, and all doing well ; some sixty of them are standing right out in the open on the grass, in the centre of flower beds, or anywhere else where we have wanted one, independent of aspect. I myself am perfectly satisfied that the Camellia is quite hardy ; at all events, it has proved to be so here, for while during some winters we have had Portugal and common Laurels cut rather severely with the frost, not a leaf of the Camellia has been hurt in the least.

As regards treatment ; we have a very heavy subsoil, it is a clay, with a slight mixture of red sand in it. In preparing positions for the plants we throw out all the soil to a depth of 2 feet, and clear about half the worst away and replace with good leaf-mould (of which we have an unlimited supply), which is well mixed with the remaining half of natural soil before filling into the holes. I have never used any manure in planting, but I occasionally mulch with old spent Mushroom bed manure in the autumn. There is one thing I endeavour to do if possible, *i.e.*, keep the plants I wish to plant out in the spring in a cool place during the previous winter, so as to prevent their making any growth until I plant them out in April, which I find is the best month to plant. After planting they are damped over with a fine rose or a syringe most evenings for a month or six weeks, according to the weather. After this they are left to take care of themselves, or at all events they only receive the same attention as that bestowed on the rest of the shrubs about the lawn, and they do equally well with the best of them, as their vigorous foliage and general healthy appearance testify.

I must not omit to say that several single and semi-double varieties have regularly for the past eight years ripened a good many seed pods, and that we have now several seedlings of our own raising 2 feet 6 inches high, and as much through, which flower well each spring, and about 600 smaller seedlings that have not flowered yet.

I will just mention a few of the varieties that we grow successfully outside:—Alba Plena, Countess of Orkney, Lavinia Maggi, Jubilee, Eclipse, Chandleri, C. Elegans, Mme. Lebois, Tricolor Nana, Augustina Superba, Imbricata, Reine des Fleurs, Fimbriata Alba, and others, besides a lot of beautiful single varieties.

ROBERT BROWN.

The Gardens, St. Leonard's Hill, Windsor.

[We think these notes of Mr. Brown, who cultivates Camellias with such marked success in the fully exposed gardens of Sir Francis Tress Barry, Bart., will greatly interest our readers.—Eds.]

CHRYSANTHEMUMS.

SPIDERY CHRYSANTHEMUMS.

RECENT enquiries disclose the fact that there has been a much keener demand for Chrysanthemums of a spidery kind, and those also which are known as thread-petalled varieties, than has been the case hitherto. This only goes to prove that growers of the Chrysanthemum are becoming less narrow in their ideas, and are finding out at last what a number of beautiful little flowers have been excluded from their selections in the past. Much may be attributed to the wiser policy of the National Chrysanthemum Society in having created competitions for exhibits of these charming flowers. Last season the display was remarkably good, and was also most convincing in proving the decorative value of these later kinds. Most of the better known sorts come into blossom when the glut of big blooms is over, and as they are more valuable in consequence they deserve to be largely grown for December displays. The decorative exhibits at the mid-winter show of the National Chrysanthemum Society last year were made up chiefly of these smaller flowers, and very beautiful, indeed, were most of them. There is a good range of colours represented by those at present in cultivation, although flowers of a yellow colour predominate. However, what one may lose in regard to colour, ample compensation is gained by the curious form of the majority. The increased interest evinced in this type of flower here referred to leads one to hope that plants having more practical value will be those more eagerly sought after. Cuttings inserted in spring root quickly, and if the plants be pinched back two or three times during the growing season good bushy little plants are developed. The question of bud selection, which is so perplexing to the inexperienced, may be almost ignored in this case, as the plants should always be flowered from terminal buds, which only need a little thinning out to ensure pleasing little dainty flowers ultimately developing. D. B. C.

HINTS FOR BEGINNERS IN THE DETERMINATION OF GRASSES.

THE average botanical amateur is apt to fight shy of the grasses, as a family either too poor in interest or too full of technical difficulties to warrant his spending time upon them. Nevertheless, grasses are well worth the student's attention, if for no other reasons than the immense value they are to mankind and their wide distribution in the earth; and when once he comes under the spell of their fascination he will find in their study a variety of structure and a beauty of form and

texture that will be as a new world to him. The technical difficulties are far less than most beginners suppose, and if one has good eyesight he need experience no serious trouble in the determination of his collections, except in the case of a very few genera, like *Panicum*, for instance, about which even experts find cause for disagreements. It is true, the smallness of the flower-parts in many species makes discrimination and care particularly needful, but this very fact increases the disciplinary value of their study, and adds zest to the hunt.

The following suggestions to beginners in the determination of grasses are offered by the writer with a lively recollection of his own first futile attempts, which were finally directed into easier channels by a kind friend whose method was about as follows: Buy at any store where botanical supplies are kept a small double lens of eight or ten diameter power, with adjustable focus, set upon a tripod. At the same place get two dissecting needles with long handles; or, instead of these latter, you can, by sinking an ordinary needle in the end of a wooden penholder, provide yourself with a good enough substitute. One needle should be sharp and the other blunt for holding the object in place. Then, with a child's common slate (which, being black, is restful to the eye, besides throwing the object examined into strong relief) for an operating table, you are ready for the fray.

Grasses, unlike carices, are in best condition for working up when they are in flower, and if collected then you may use your pleasure about studying them at once or laying them aside until a more convenient time, as, for instance, winter time. When ready to examine the specimen, break off a spikelet or two, and lay them on the slate under the field of the tripod lens; then applying your eye to the lens, and with a dissecting needle in each hand to manœuvre the spikelet, you will have little difficulty in dividing part from part and noting thoroughly all the characteristics. A pocket lens will, of course, be the readiest means of examining other characters than those of the flowers.—C. F. SAUNDERS, in *The Plant World*.

NOTES OF THE WEEK.

Iris reticulata major.—At a recent meeting of the Royal Horticultural Society different opinions were expressed by hardy plant specialists as to the above plant, said by some to be a comparatively recent introduction. If this be so, it will not be too much to ask that the raiser or introducer make a definite statement in the matter, so that once and for all the question may be settled. A charming pan of it in flower was shown, and quite a poor flower—a solitary one, and rather old—being placed by its side as representing *I. reticulata* (type). Quite naturally the one was vastly superior to the other, and without knowledge of either plant the difference was marked. My contention, however, is that the inferior kind in no sense represented the fine plant long ago distributed as *I. reticulata*, and in the circumstances I regarded it unfair to label it thus, though I fully believe it was so named in perfect good faith. I am not now raising a question as to the varieties of *I. reticulata*, or of the superiority of one over the other, for I know at least three grades of, say, typical *reticulata*, that for present purposes may be styled minor, major, and maxima, so widely different are they. These kinds, too, are quite distinct from such as *purpurea*, *Krelagei*, *cœrulea*, &c., which I name to save confusion. I shall therefore be much obliged if anyone can say with absolute authority who is the raiser of the plant bearing the above name, together with the date of its introduction to commerce.—E. H. JENKINS, *Hampton Hill*.

Hovea Celsi.—In the days when hard-wooded specimen plants were very popular this was regarded as a good test of the cultivator's skill, but it is now very seldom seen, and in common with many subjects once generally met with may be sought for in vain in most gardens. The hard-wooded plants that still hold their own are limited to those that will yield a good display

of flowers in pots 5 inches or 6 inches in diameter, and this cannot be said of the *Hovea* in question, though as a good sized specimen it was very ornamental. This *Hovea* is of rather a loose habit of growth, somewhat after the manner of the *Chorozemas*, while the slender shoots are clothed with ovate deep green leaves, and studded for some distance with dense clusters of rich purplish blue, pea-shaped blossoms, which from their distinct tint at once attract attention. Though generally known under the above name, it is by the latest botanical authorities referred to *H. elliptica*. Like many of its immediate allies it needs a soil principally composed of good sandy peat, careful attention in the matter of water, and a glass structure, where an airy buoyant atmosphere is maintained. This *Hovea* is not at all easy to strike from cuttings, hence it used to be sometimes grown from seed, but from whichever method the plants are obtained they must be freely pinched during their earlier stages, in order to lay the foundation of a good bushy specimen.—H. P.

New hybrid Wallflowers (*Cheiranthus hybridus* and *kewensis*).—Until recently Wallflowers of use for conservatory decoration were limited to the double forms of *Cheiranthus Cheiri*, for although the Canary Island species *C. mutabilis* requires protection in winter, and flowers from late autumn until early spring, its flowers are not sufficiently showy to warrant extensive cultivation. The bushy habit, however, together with its free-flowering qualities, resulted in its being taken in hand for improvement, and the two plants above mentioned are so far the results; both have been raised at Kew. The first cross was made in May, 1897, *C. mutabilis* being used as the seed bearer, a yellow form of *C. Cheiri* supplying the pollen. This cross resulted in *C. hybridus*, which flowered for the first time in January, 1898. In general appearance it closely resembles the female parent, but is more compact and sturdy. The leaves are similar in shape and serration to those of *C. mutabilis*, but longer and almost as wide again. The racemes are thin and slightly pendulous, longer than in *C. mutabilis*, with larger flowers. The flowers are over half an inch across, yellow when they first expand, marked with brown on the lower half; as they age they turn to light purple. A slight fragrance is discernible in the flowers of the male parent. The second hybrid, *C. kewensis*, has arisen through the crossing of *C. hybridus* with a blood red form of *C. Cheiri*. It has the bushy habit of *C. mutabilis*, with the sturdiness of the male parent. The cross was effected in May, 1899, and flowers opened in January, 1900. The leaves are 7 inches long, three-quarters of an inch wide, and have much the shape of those of *C. mutabilis*, with slightly serrated margins. The racemes are upright and sturdy, but not so stiff as in *C. Cheiri*. The flowers are 1 inch across, brown in the bud stage, with a purple calyx. When expanded they are brownish orange inside, reddish brown outside, the whole flower turning to pale purple with age. They are very fragrant. So far both plants have to be increased from cuttings, for although a single seed was obtained by crossing the first hybrid with a garden form, no seeds have been produced either from the use of their own pollen crossing with each other or with *C. mutabilis*. Both plants have been flowering at Kew since November, and will continue for several weeks yet. The original plant of *C. kewensis* is in the Cape house; it is 1½ feet high, 2 feet through, and is smothered with flowers.

The Lady Warwick Hostel, Reading.—An interesting meeting took place in the packing department of the Countess of Warwick's Horticultural Scheme for Women, on Wednesday, March 6, when Mr. E. O. Greening, the managing director of the Agricultural and Horticultural Association, delivered an address on the marketing of agricultural produce. The Countess of Warwick presided, and there was a large attendance of friends and students. Mr. Greening, who is one of the apostles of the co-operative movement, kept this principle to the fore during the course of his address, which commenced with a sketch of the rise and progress

of the movement in Lancashire, and its subsequent development; then proceeded to apply the principle to the distribution of garden and agricultural produce, impressing upon his audience that all which was grown for market must be of the best, that grading and packing should be carefully done, and their goods be put upon the market in the most attractive manner. The matter which was no doubt uppermost in the minds of the founder, Lady Warwick, and the warden, Miss Edith Bradley, was no doubt how and where can the produce of the hostel be disposed of to the best advantage, a subject that will, no doubt, receive due attention as the amount of produce grows larger. It may not be generally known that the Lady Warwick Hostel was founded about three years ago in the interest of women, so that they might gain a practical knowledge of the lighter branches of agriculture, and open up to them a profession by which they could obtain a livelihood. By the term "lighter branches of agriculture," is understood the culture of the garden, with its many collateral branches, such as fruit farming, the growing of Mushrooms, Tomatoes, flowers, vegetables, and other things, on market garden lines, poultry rearing, bee keeping, general dairy works, butter and cheese making, &c. To this end a space of ground was secured on a slope falling away from an elevation on the south-west side of Reading, and a mansion or two contiguous as homes for students. There are about 12 acres of ground, the largest portion comprising the warden's fruit farm and farmstead, while on the higher ground are two houses, each 100 feet long, for fruit and vegetable growing, some plant and forcing houses, a commodious potting shed, &c. At present there are some sixty students; properly qualified experts have charge of the various departments, and the students are intelligently instructed, while they themselves perform much of the manual labour. There are, of course, tuition fees, as well

as for board and residence, and the visitor cannot fail to be struck with their bright and happy faces and healthy appearance. The students are daughters of professional men, over the age of sixteen, and they are here to become qualified as gardeners in private places and public institutions, in private houses as floral decorators, in flower shops, and various other ways in which their knowledge can be utilised. The minimum period of training is two years, though a longer time is strenuously advocated. The horticultural instructor is Mr. W. Iggulden, F.R.H.S.—R. D.

A plea for spring and autumn Rose shows.

—If it be admitted that the primary object of an exhibition is to encourage the cultivation of the particular flower for which the exhibition is held, then surely something might be done to popularise the cultivation of pot Roses by holding exhibitions of them. The pot Rose is such a noble plant for the greenhouse that it seems almost incredible that there are no recognised Rose shows during the spring and autumn. It is true there are the fortnightly meetings at the Drill Hall, and the trade growers are not slow to avail themselves of such opportunities to display what they grow; but cannot some society, and preferably the National Rose Society, offer such prizes as will induce amateurs and the growers of Roses for market to compete for them? I allude now more especially to the early spring. There seems to be a great falling off in the culture of pot Roses for exhibition, but surely no plant so well shows what skilled culture can accomplish. Competition should also be invited for vases of cut Roses with long stems and artistic displays of the same. If the market grower can produce the splendid flowers he does under glass, surely the amateur can do the same, and liberal prizes would induce a keen competition. There are numbers of residents near large cities who would be glad to devote a house or two to

its form is full and perfectly double. The plant is of dwarf growth, and flowers with great freedom. Messrs. H. Low and Co., Bush Hill Park, Enfield, showed this sterling novelty, and we are pleased to be able to give a photograph representing a flower.

A National Sweet Pea Society.

—With reference to a communication made by Mr. Richard Dean, which appeared in your issue of the 9th inst., concerning an invitation to him to attend a meeting in the City on the 12th inst., with a view to forming a National Sweet Pea Society, I beg to submit correspondence I had with that gentleman on the subject. Before any steps were taken to convene the meeting this correspondence was considered by the gentleman with and for whom I am acting in this matter, and in view of Mr. Dean's reply of February 20, comment by me on his published remarks is needless.—CHARLES E. WILKINS, 19, Lyndhurst Road, S.E.

Mr. Charles E. Wilkins's letter to Mr. Dean is as follows:—"I have been approached with the view of assisting in the formation of a Sweet Pea society; but before doing anything either one way or the other, shall be glad to know if it is your intention to form a society, or run a show on similar lines to the one held last year, as I am of opinion that there is not room for two societies, and do not wish to interfere with any project you may have in hand." And Mr. Dean's reply is:—"I have no knowledge of any Sweet Pea society to be formed in London, or of any Sweet Pea show to be held in the metropolitan district. There is to be a large show in Boston during July, which I am to judge."

Cordylone Guilfoylei.—This plant is undoubtedly one of the best of the Cordylines. It has been classed among the greenhouse species, but my experience is that the plant requires a stove to cultivate it to perfection. Given cool treatment throughout, the true colouring of its leaves is not brought out, although I have found that it will withstand a stay in the conservatory for a few weeks in midsummer if the plants are vigorous and healthy. *Cordylone Guilfoylei* has recurved leaves 12 inches or 15 inches long and 1½ inches wide in the centre. Each leaf is beautifully striped with green, yellow, and red, and tapers off to a point. The best results are obtained by keeping the plants in rather small pots, and feeding them regularly throughout the growing season. Weekly applications of farmyard manure, water, and an occasional sprinkling on the surface with Clay's fertilizer will be highly beneficial.—H. T. MARTIN, *Stonleigh Abbey Gardens, Kentworth.*

Clerodendron fallax.—Among *Clerodendrons* of a shrubby character this ranks as one of, if not, the best. It has large cordate ovate leaves of a deep green colour, and the flowers are bright scarlet, borne on erect racemes thrown well up above the foliage. Propagation is readily effected by cuttings taken from old plants in early spring, and inserted in light sandy soil. If plunged in the propagating beds, roots will quickly be emitted, when they should be carefully potted off, taking care not to injure the tender roots in the operation. Small pots should be utilised, and keep the young plants on a shelf near the roof glass in a pit or stove. Raising from seed is sometimes practised, but the process is slow, for the seed takes a long time to germinate, and very often decays in the soil. Young healthy plants will flower the first year from the cutting, and will tend to brighten up the front stages of the stove during late summer and autumn. Old plants should now be taken from their winter quarters where they were placed to rest, and partially shaken out and repotted in a compost consisting of equal parts fibrous loam, peat, leaf-soil, and decomposed cow manure, with sharp sand and nodules of charcoal added. As the plants advance in growth an occasional application of liquid manure should be given, and a fortnightly application of artificial manure may also be given with great benefit. Small plants in 3-inch pots are admirably adapted for use on the dinner table in the autumn months; they may be turned out of their pots and the soil mossed over.—H. T. MARTIN.



CARNATION MRS. T. W. LAWSON.

Carnation Mrs. T. W. Lawson.

—This variety of Carnation created considerable interest when shown last year at a meeting of the Royal Horticultural Society, and given an award of merit by the floral committee. It is much grown in the United States, and the flower is conspicuously brilliant in colouring, a bright cerise-pink, whilst

The Victoria Memorial Garden in India.

It is pleasant to know from *Indian Gardening* that a desire has been expressed to have a beautiful garden as part memorial to the late revered Queen. Here are some extracts from the journal mentioned: "From the proceedings of the great meeting held at the Calcutta Town Hall on February 6, we gather that the memorial is to take the shape of a hall; it is proposed to lay out the grounds as a public garden. It is in this latter connection that we desire to offer a few remarks. The plot of ground referred to is, in our opinion, much too small for the purposes of a public garden. A garden intended to commemorate the reign of the great Queen-Empress should be on a scale of magnificence commensurate with the object in view, and this can scarcely be done in the circumscribed space referred to above. From all we can gather, the subscriptions towards the Victoria Memorial will not fall far short of 50 lakhs of rupees, equal to, say, £312,500. With such a large sum at their disposal, the committee of the Memorial Fund should not only be able to erect a magnificent edifice, but lay out a beautiful garden. When designs are invited for the hall, the opportunity should be taken of calling for designs for the garden as well. This matter should be made known in England, where landscape gardeners of great ability are to be found who would be glad to furnish designs. Thus the garden would be in keeping with the hall. No expense should be spared to stock the garden with the choicest plants, statuary, fountains, ornamental tanks, plant houses, and all that goes to make a beautiful garden, which should be placed in charge of a thoroughly qualified European gardener. It should, we consider, be a flower garden in the fullest sense of the term, and, above all things, no club should be allowed to monopolise any part of it. It should be the peoples' garden, a source of pleasure to the citizens of Calcutta in particular, and of India in general all the year round. There should be glass houses on a liberal scale, and a conservatory that should contain the choicest exotics of the tropical and sub-tropical world, grown to the greatest perfection. It will be most conveniently placed, and if properly laid out should prove a veritable haven of rest for the overworked citizens of this great commercial town."

Memorial to the Queen.—At a time when many great and costly schemes are being discussed to commemorate the glorious reign of our late Queen, may I venture to put forward a plea on behalf of the innumerable country parishes which, from the force of circumstances, will be unable to do more than contribute their humble offerings towards some central fund, and yet would gladly welcome any plans by which her memory could be preserved in some tangible form in their own locality. May I therefore suggest the following very simple scheme by which every parish in the United Kingdom, however poor, may become possessed of such a memorial. It is as follows: That a mural brass or bronze tablet, of uniform design, should be placed in every church, upon which might be engraved some or all of the following: (a) An outline bust of the Queen, with the dates of the birth, accession, and death of her late Majesty. (b) The Imperial crown and arms of Great Britain. (c) The whole to be surrounded with a border of Roses, Thistles, and Shamrock. (d) Tennyson's words, "She wrought her people lasting good." Should such a simple scheme commend itself to general approbation the details would be a matter for further consideration. —B. G. HOSKYNs, Canon of Truro.

Zephyranthes candida.—I am very sorry that "W. W." (page 169) should consider me either severe or unkind; I could not be either with him. He told his experience and I told mine, and in doing so we were both in the right. I have tried the plant in so many places that I am sure further trial is useless. But what is meant by "a plant for the million?" My test of such a plant would be that the million get it as fast as they can, grow it once, and go on growing it. *Zephyranthes* will not stand that test. It was introduced more than seventy years ago, and then was said to be

perfectly hardy, easy of growth, and most beautiful. Yet in how very few gardens is it now seen; and the reason is that in so many cases the plant will only live a few years and gradually dwindle away. It does succeed in some places, and I envy the gardeners of such places, but it steadily refuses to do with me. As to *Gentiana acaulis*, I have almost the same tale to tell. I have tried it in all sorts of positions, and it lives with me and that is all. I have come to the conclusion that it will not do on a limey soil, and am confirmed in that by the splendour of the plants at Wisley. Last year I tried to find out the secret in Switzerland, and I noticed that the plants growing in the short grass were always far more flourishing than those growing on bare spots. Perhaps it might be worth while to try dibbling them into the lawn.—HENRY N. ELLACOMBE, *Bitton, March 9.*

"I think no one need fear success with this if planted in a suitable place. In front of our pits facing south, viz., Melon, intermediate, and cool pits, I have a row of *Belladonna Lilies* in a border not more than 8 inches wide, and immediately in front of these I have *Zephyranthes candida* flourishing splendidly with the *Belladonna Lilies*. A few years ago I had some bulbs of *Z. candida* and *Z. Atamasco* (pink form), which I established in two pots. The following year I planted them in the above position, making a row 30 feet long. *Zephyranthes Atamasco*, although planted at the warmest end, has gradually dwindled and died out, while *Z. candida* has flowered and increased splendidly. I mention the interior conditions of these pits because the growth of the *Belladonna Lilies* is conspicuously influenced by the interior temperatures, causing the *Lilies* to give a long succession of flowers. I may mention also that *Sternbergia lutea* with me in a similar position flowers splendidly.—JAMES R. HALL, *Fox Warren Gardens, Cobham, Surrey.*"

Lily bulbs from Japan.—Though the season is so far advanced, numbers of Lily bulbs still reach this country in good condition from Japan, and at the auction sale on March 6 considerable numbers were quickly disposed of. Very few of the bulbs show any signs of growth, unless it be the pushing out of a few roots into the clay within which each bulb is hermetically sealed. This covering of clay tends to keep the bulbs firm and plump, and if potted or planted at once they commence to root in a few days. Though most kinds among these later importations can be depended upon to flower in a perfectly satisfactory manner if attended to soon after being unpacked, they quickly suffer if exposed to the air, hence they should be got into their permanent quarters as soon as possible. The practice of retarding bulbs for late flowering has led to an increased demand for those varieties that have proved amenable to this mode of treatment, and some—particularly the varieties of *L. speciosum*—realise much higher prices than they did formerly. It is, however, more than probable that an increased demand for any particular form will be met by larger importations another season, as the Japanese cultivators of Lily bulbs have many times shown us that they possess true business enterprise.—T.

Lilium speciosum in flower.—Flowering as this Lily does naturally in August and September, it would have been considered, even two or three years ago, a remarkable feat to have a display of its attractive blossoms at this season, but now such large quantities of bulbs are retarded by means of refrigerators that considerable numbers may be seen in the better class florists' shops of London, where they attract much attention by reason of their uncommon appearance. Both the coloured kinds—roseum and rubrum—as well as the white (*Krætzeri*) are amenable to this treatment. For the decoration of large vases, and similar purposes in a cut state, they are very valuable, as if taken when the first two or three flowers only are expanded the remaining buds will open beautifully in water and continue for some time. *Lilium longiflorum*, too, is largely treated in the same manner, not the variety *Harrisi* alone, which we have been accustomed to see for some years in limited numbers during the spring months,

the produce of bulbs imported from Bermuda, but also large quantities of the Japanese form, which in the normal course of things would have flowered last summer, but have been kept over till now. With the many radical changes in the flowering season of different plants, brought about both by forcing and retarding, the old lines of demarcation between the seasons are now completely broken down.—H. P.

Saxifraga apiculata.—Any plant that struggles to flower well in the open in midwinter is of some value. *S. apiculata* has been blooming well, the pale yellow blossoms appearing now in considerable profusion. By reason of its fine habit of growth the plant should be largely grown, for we have not many quite free hardy kinds that attempt even to flower in midwinter. The plant is so easily grown and increased by division that anyone may deal with it successfully. Like others of similar growth, e.g., *S. sancta*, the above well repays frequent division of the tufts. This should be carried out about this season of the year, though preferably in moist weather. In replanting spread out the tufts so that in time a mass 3 feet across or more is secured. This is not impossible, at least as suggested here, though it is impossible if you wait for any single tuft to develop to this size, because the central parts will almost invariably scorch and burn long before. But if when ordering plants half a dozen of such a kind are secured, and planted 6 inches apart, the whole will soon make a beautiful mass.—E. JENKINS.

Saxifraga burseriana major.—There is not the least doubt as to the superiority of this plant over the well-known typical sort. Both kinds are now in flower with me side by side, though the older plant flowers slightly earlier. The typical *S. burseriana* produces its blossoms on shorter petioles, and, while crimson-scarlet in bud, possess this striking shade in a lesser degree in the petioles than the variety *major*. The above plant well deserves the varietal distinction, for not only are the solitary rosettes of leaves larger and decidedly more silvery, but the stems or petioles look like attaining nearly 3 inches high, and this quite in the open in pots that are not even plunged. This latter point will interest Mr. Selfe Leonard, I think, to whom I am indebted for this true *major* kind, the plant I received less than a year ago now giving promise of a score of blossoms that in size approach some of the white *Ranunculi*. The plant is indeed a fine one, and though I have only one example of it, I have a vivid recollection of a huge framel that I saw in Mr. Leonard's garden last year. Thousands of flowers were open, and Mr. Leonard may justly be proud of so fine a stock. My plant last year carried about six or eight flowers, so that not only is there much progress to report, but a great increase of flowers too. It is my firm opinion that many cultivators do not give these alpine gems the freedom they so much appreciate and of course attain in their mountain home.—E. JENKINS.

Cool storage for Apples.—This point came up at a recent meeting of the Royal Horticultural Society's fruit committee, and it is most important to growers, as our supply fails woefully after March. Much depends upon storage. Some excellent fruits of various kinds were sent by Mr. Crump from the Madresfield Court Gardens. Remarks were made as to their excellent condition, and Mr. Crump kindly sent some details, stating that originally his fruit did not keep well in the usual kind of store above ground, and he made a cellar or underground room, and in that the fruits kept splendidly. The fruits staged were very sound, whereas in most places some of them would have been past. When in Gloucestershire I had a similar experience with a glut of fruit. I placed quantities in a disused ice house, and the fruit was much better than in a dry store, less decayed, no shrivelling, and much later. There is no doubt whatever but that modern fruit rooms are too dry—they lack moisture—the dry shelves absorb moisture, and cause shrivelling and loss of flavour; indeed, I have seen large heaps of Apples keep better in a cellar than when stored thinly on shelves in modern fruit rooms.—G. WYTHES.

Francoa ramosa.—Anyone who has a greenhouse should not be without a good batch of the "Bridal Wreath." The long racemes of white flowers are just appearing, and when used amongst other plants they have a pleasing effect. It is also very useful for cutting, and lends itself readily to all kinds of decoration. I find it most satisfactory if propagated in the spring from seed, which should be sown in a pan in a light compost and placed in a warm house. A great deal of care and attention is necessary during germination. When the seedlings are large enough to handle they should be pricked out into other pans and kept in the same temperature till they require another move. They may then be potted into 3-inch pots and placed in a cooler house; 5-inch pots are a convenient size in which to flower them. At this stage they may be placed in cold frames, there to remain until very severe frost necessitates their removal indoors. If propagation from seed fails and cuttings are available, these will readily strike in the propagating pit.—E. H.

Chrysanthemum Miss Evelyn Douglas.—Foremost among the Japanese novelties of the past season is a superb seedling raised by Mr. H. Weeks, of Thrumpton Hall, and named as above. It is the best of this raiser's introductions of 1900, and will do much to maintain the high position attained in recent years by this fortunate grower. The colour is a pleasing shade of rose, with a silvery reverse to the fairly long, twisted, and slightly curled florets. These build up a large deep flower of good form and substance. The National Chrysanthemum Society floral committee awarded this novelty a first-class certificate, and, judging by the plants now being distributed, there should be no difficulty in representing flowers at their best in the autumn.—D. B. C.

Lilium canadense.—The note on *Lilium canadense* at Rowden Abbey is particularly interesting as showing that the successful culture of this so-called Swamp Lily, in an open and shadeless border of ordinary garden soil, consisting in this case of "stiff, red loam," is attainable. The soil in Herefordshire is, I fancy, as a whole, deep and good, while the climate, in common with that of other western and south-western counties, is rather moist than otherwise, but the change from the American swamp in which the owner collected

her bulbs to the ordinary soil of the open border would, one imagines, provide ample cause for a subsequent loss of vigour in most instances, instead of which, that the vitality of the bulbs evidently suffered no check is proved by the extraordinary increase they have made during the past sixteen years; forty-eight large clumps in the border, as well as many other large ones in different parts of the American and wild gardens and gifts to less fortunate friends, being spoken of by the writer. The complete success attained in this instance points the moral often inculcated in these columns, namely, that the lack of soil and conditions held to be indispensable to the well-being of certain subjects should not deter experimental planting. All observant plant-lovers will be able to call to mind fairly numerous instances where, under circumstances apparently the most adverse, robust health was manifested, and this case in point demonstrates that, because this Lily, from its native habitat, has earned the title of Swamp Lily, its successful culture need not be despaired of by those who have nothing better to afford the bulbs than the ordinary border, even although such success must be regarded as a possibility rather than a probability. Where a damp, porous compost in partial shade is available, such conditions are eminently suited for the culture of the Swamp Lilies, but experiments may be made with good results in other soils and surroundings. The finest specimens of *Lilium pardalinum*—another Swamp Lily—that I ever grew were planted in the ordinary soil of heavy red loam, only slightly modified by an addition of leaf-mould. One example exceeded a height of 7 feet and bore more than six dozen flowers, while others were not much inferior, whereas in the damp bed of peat, leaf-mould, and fibrous loam, although exhibiting perfect health, these Lilies never attained such dimensions. *L. canadense* behaved fairly well in the ordinary soil, but better in the peat bed, and *L. superbum* failed in every site but the latter. *L. pardalinum* increased somewhat, but never to the extent mentioned by your correspondent in the case of *L. canadense*, while with that Lily the increases were more than counterbalanced by failures, and *L. superbum* had to be frequently replenished by new purchases. The lifting of the dozen Lily bulbs, which eventually multiplied so prodigiously in the Here-

fordshire garden, at a time when they were in full flower, was, doubtless, calculated to impair their vigour, but the interval between their being lifted and replanted was evidently a short one, since the writer measures it by days, and it is a question if some of the failures in the culture of the Swamp Lilies are not in a measure due to the length of time that purchased bulbs are out of the ground before being planted.—S. W. F.

TREES AND SHRUBS.

HYDRANGEA PANICULATA.

CERTAINLY this is the most striking of the few hardy shrubs flowering in the autumn, and this applies more especially to the variety *hortensis* (or *grandiflora*). There is a large bed containing both the variety and the type in the Arboretum at Kew, and they make, when in full flower, a very conspicuous and striking mass. In the variety *hortensis* (or *grandiflora*) nearly the whole of the flowers have become sterile—as so frequently happens with the members of this genus when brought under cultivation—and this change, although it makes the racemes somewhat heavy in appearance, at the same time renders them much more showy than the type with its normal proportion of sterile and perfect flowers. The racemes are immense pyramidal masses, the largest of which measure more than 1½ feet in length by 1 foot in width. The flowers last long in good condition; at first they are white, afterwards pinkish, and even when they have turned brown with age they are not without beauty. In order to produce racemes of the largest possible size the plants are cut back in early spring, and after the young growths are a few inches long, from six to twelve (or more, according to the size of the shrub) of the stoutest are selected and the rest removed. The plants should be given a good mulching in the early summer and watered whenever

necessary, the aim being to get the shoots as strong as possible. Towards flowering time they will need the support of a stake. After all, such masses of flower are something in the way of monstrosities, like the exhibition *Chrysanthemum*, and many may prefer the smaller, more elegant, but still striking racemes produced by unpruned, more naturally grown plants.

AMATEURS' PERPLEXITIES.

PLANTING A STRIP OF WOOD.

"ROSEBEETLE" writes:—"I have lately thrown a small strip of wood into the garden by pulling down part of the boundary wall, and shall be greatly obliged if you will give me some advice as to how to make it as attractive as possible. I am having holes prepared for suitable plants. It is bounded on two sides by a small river and on the third by a ditch; this and the river usually overflow in winter and in summer dry up almost altogether. The soil has never been dug, and is hard, like clay, and full of roots. The natural soil of the garden is very good. The trees are mostly Hawthorns, but there are several Beeches, a few Oaks, and a little grove of wild Cherry trees at one end. I should very much like to grow some Lilies, Japan Anemones, &c., and thought of digging good large holes



A BED OF HYDRANGEA PANICULATA AND H. P. GRANDIFLORA AT KEW.

2 feet or 3 feet deep and filling these up during the summer with manure, refuse, and good soil. In one rather shady place there is a little mound; what could I plant to trail over it and hang down?"

[For the chief planting we advise *Leucojum aestivum*, Daffodils, and Solomon's Seal; also hardy Ferns, including Hart's-tongue. Other plants likely to do well would be *Iris foetidissima*, the common Columbines, and Woodruff. Of Lilies the most suitable would be the Martagon and its white variety. For trailing over the mound, Ivy, Periwinkles, or Moneywort. Ivy is charming with Snowdrops coming through it. Snowdrops would also probably do well planted in quantity. If a large effect is desired, *Polygonum Sieboldii* should be used, or if a group of flowering shrubs, Guelder Rose, or, still better, its original native form, the Water Elder (*Viburnum Opulus*). In planting such a place we think it well to maintain a different character to that of the garden, by the use of plants that are either handsome natives or might be wild. Nearly all those named are of this nature. Two feet would be deep enough for the prepared holes, and we should not advise making the soil too rich.—Eds.]

CULTURE OF AUBERGINES.

I SHALL be much obliged if you will kindly give directions in THE GARDEN for the culture of Egg Plants (Aubergine). Also say how they are used at table, and if all, scarlet, white, and purple, are eatable. I and three or four friends in this neighbourhood are intending to grow them for the first time this year.

Southminster.

AUBERGINE.

[We are pleased to give you some information about these interesting plants, especially their culture, and a few ways of cooking them; but as regards the latter our knowledge is somewhat restricted, as the Egg Plant is not a favourite in this country, and its cooking is not so well understood as on the continent, where it is a favourite and much grown for food. In France the Aubergine is grown in the open, also in Italy, and in the United States it is becoming a great favourite. With regard to their edible qualities, it is merely a question of outside or skin covering that makes the distinction. They also vary greatly in shape—there are round fruits, egg-shaped, and long Cucumber-like ones, the Long White, the Long Purple, and others in variety; but from close observation I think the New York Purple the largest and best of the dark-coloured fruits. The Black Pekin, a Chinese variety, is also a very distinct fruit, and one well worth growing; indeed, we think anyone who grows these plants will find more interest in growing the various sorts, such as the Scarlet, the Black, and other kinds. Some of the smaller fruiteders are very ornamental, and specially suitable for pot culture. Culture is simple, but of course not being hardy the plants are best raised in heat. As regards the date of sowing, so much depends upon the grower's convenience to raise the plants. Seed sown in a frame or gentle heat in March or April will make good fruiting plants by the late summer months. Seed may be sown in pans or pots in a temperature of 60°, and when the seedlings are large enough to handle prick them off singly into small pots, or three in a pot, at the sides, replacing in a warm frame or house when new roots are made. If intended to plant out, transfer to cold frames in May and gradually harden off. If for fruiting in pots, move into 8-inch pots, or larger if three plants are together, or, say, 6-inch for single plants; grow them near the glass, and give food freely in the way of liquid manure as the plants increase in size. During growth their worst enemy is red spider, and this shows that ample moisture or syringing of plants is needful. Thoroughly wet the under sides of the leaves, as that is the portion most quickly affected. Dryness

at the root is also fatal, as this checks growth. When the plants are in bloom it may be necessary to cease syringing overhead for a time until the fruits are set, also to mulch the plants or top-dress with manure to retain moisture and promote surface rooting. We now come to open-air culture, and planting out should be done early in June, a slight covering being afforded on cold nights at first. Grow in richly-manured land 2 feet apart, and place supports to the plants as needed. For planting out, sow the seed in April under glass, and pot on as advised. Sown too early, or given a check, the plants do not grow away freely. In dry weather the plants will need plenty of water, also food, and it is advantageous to water overhead in the evening after hot sunshine. The plants do well against a wall or trellis, and if large fruits be desired thin to two or three of the strongest, allow free growth, and support the fruits when formed. The best way of cooking is as follows (pot culture is usually followed for ornamental purposes only): The fruits may be cut in halves, the soft or seedy part scooped out,

mingham has been, and still is, very considerable. Many are the choice hybrids of Ferns, Orchids, and other plants which Mr. Latham has raised in the Edgbaston Botanic Gardens. With reference to the latter, over whose welfare Mr. Latham has presided for the past thirty-five years, only those who have periodically visited them can form an idea of the many ways in which they have been improved. At our request Mr. Latham has kindly supplied details of his noteworthy career, and has done this in so interesting a way that we cannot do better than let these notes take the form of a personal narrative.

"At an early period of my life I commenced work in the garden of Mr. William McNeil, Wandsworth Common. Mrs. McNeil was a great lover of gardening, with a good knowledge of hardy herbaceous plants, and cultivated a choice collection of them. I left here after three and a-half years' service, and was then apprenticed to the late Mr. Robert Neal, of the old Wandsworth Common nurseries, which at that time contained a large collection of hardy trees, shrubs, Roses, herbaceous, and alpine plants. I remained here a little over three years, during which time I took up the study of British plants. With an old school-fellow, the late Mr. C. Wilford, I often took long rambles, and together we collected a large number of plants found in that part of Surrey. With a desire for change and a wider field for improvement I went to Kew and saw Mr. J. Smith, the then curator of the Royal Gardens, and some two or three months after I succeeded in obtaining employment there. I left Kew, then under the direction of the late Sir W. Hooker, in 1857. I had a great desire to study under the late Sir Joseph Paxton, then at Chatsworth, and soon succeeded in obtaining a situation in the gardens there. At Chatsworth I found a large collection of Orchids, embracing noble specimens of *Phalaenopsis*, *Dendrobiums*, grand masses of *Celogyne cristata* on blocks of wood, *Cattleyas*, *Saccolabiums*, *Arides*, *Pleiones*, and many others. There was a fine plant of *Amherstia nobilis*, and the *Victoria Regia* was in the highest state of perfection. The noble conservatory, with its wonderful collection of rare, tropical, and sub-tropical plants, excited my admiration. Outside the gardens and grounds of Chatsworth I found on the hills and in the dales of Derbyshire ample occupation for the study of British plants, and added to my collection many not previously met with.

"Having a wish for experience in continental horticulture, I mentioned the subject to Sir Joseph Paxton, who readily consented to write to Professor Decaisne, then director of the Jardin des Plantes, Paris, and some few months after Sir Joseph received an intimation from the professor that there was an opening, and that I could go at once to Paris. A few days after I was at the Jardin des Plantes with a letter of introduction from Sir Joseph to M. Neumann, the then curator, who at once placed me under the direction of the late M. Houlet, whose courtesy and kindness is to this day gratefully remembered. At this establishment a large collection of plants was cultivated, both out of doors and under glass. I saw here for the first time *Lapageria alba* (then the only plant in Europe); I also saw *Paulownia imperialis* in flower for the first time. I was also very interested in the large



MR. W. B. LATHAM.

(Curator of the Birmingham Botanic Gardens.)

then the space filled in with chopped meat, and the whole stewed in gravy or done in a slow oven, the fruits being tied together before cooking, and when cooked served very hot. The fruit may also be cut in quarters and fried in boiling fat until brown and served with rich gravy. Another way is to stuff with veal stuffing and bake in the oven in plenty of hot fat. They may also be sliced and used in soups or stews, or cooked whole in a young state and then served with mincemeat, or boiled like Marrows and served with white sauce.—Eds.]

WORKERS AMONGST THE FLOWERS.

MR. W. B. LATHAM.

It is a great pleasure to include in our series of "Workers Amongst the Flowers" Mr. W. B. Latham, curator of the Botanic Gardens, Birmingham. Mr. Latham has laboured long and earnestly in horticulture; his influence for good in this direction in the neighbourhood of Bir-

collection of grasses grown here. Many facilities were given to young gardeners to attend lectures, and to visit the large Peach and Nectarine growing establishments outside Paris, where, by the payment of one franc each, the *chef des cultures* gave them instructions in pruning, training, &c. I remained some months at the Jardin des Plantes, during which time I visited some of the best gardens and nurseries for miles round Paris. On returning to London I obtained employment in Messrs. Parker and Williams' nurseries at Holloway, and after six months in the plant department went as head gardener to Lieutenant-Colonel Perkins, Birtley Hall, Chester-le-Street, Durham, where I remained eight years, having charge of one of the finest collections of Orchids in the North of England, and a large collection of exotic Ferns, greenhouse and stove plants.

"On the retirement in December, 1867, of Mr. Catlin, curator of the Birmingham Botanical and Horticultural Society's garden, I was selected from about 200 candidates to succeed him. At this time the collection of plants was somewhat limited for a good botanical garden which had existed for thirty-seven years, and of trees and shrubs there were the remains of a fine collection, planted when the gardens were first made, for the formation of a large archery ground I received instructions from the committee of the garden to destroy one of the best, if not the best, collection of *Cratægus* and other rosaceous trees and shrubs in the United Kingdom. The collection of plants was quickly increased. The glass accommodation was added to by the erection of two houses for the culture of plants, and subsequently the large handsome conservatory was built. The absolute necessity for still further glass structures led to a special appeal for additional funds, and in a short time nearly £4,000 were received. In July, 1885, a large portion of the old structure was pulled down and an extensive block of new glass houses built.

"We have now in the Botanic Gardens, Birmingham, a large collection of Orchids, a good collection of stove and greenhouse plants, including some fine specimens of *Camellias*, a large collection of Ferns, some good samples of tree Ferns, and a good collection of herbaceous and alpine plants. A large rock garden was made and planted about six years ago, and is now a most interesting feature in the gardens throughout the year.

"In 1862 I raised *Dicksonia lathamiana*, Moore, a hybrid between the *St. Helena D. arborescens* and the Australian *D. antarctica*; the original plant is now a grand specimen. The late Mr. T. Moore, on examining specimens of this hybrid, told me he had not up to that time thought much of hybrid Ferns, but he now must change his opinion. I have since raised seedlings of this Fern. Another hybrid tree Fern raised by me about 1870 is between the Mexican *Cyathea insignis* and the Norfolk Island *Alsophila excelsa*. I have not been able to raise this hybrid from spores. The original is now a splendid plant. *Gymnogramma Lathamiae*, Moore, is another hybrid raised by me some twenty years ago, and is between *Gymnogramma decomposita* and *G. schizophylla*. *Cypripedium lathamianum*, a hybrid between *C. spicerianum* and *C. villosum*, and *Cypripedium deedmanianum*, a hybrid between *C. spicerianum* and *C. chamberlainianum*, were also raised by me."

We may also add that Mr. W. B. Latham was recently awarded a large Veitchian medal for eminent services rendered to horticulture. He is a member of the Orchid committee of



THE ROCK GARDEN IN THE BIRMINGHAM BOTANIC GARDENS.

the Royal Horticultural Society, has been chairman of the Birmingham and Midland Counties Fruit and Horticultural Society for the last twenty-six years, and also of the Birmingham and Midland Counties Gardeners' Association since its formation fifteen years ago.

GARDENING OF THE WEEK.

CHRYSANTHEMUMS.

FROM the middle until the end of the present month the whole of the earliest struck cuttings should be fit for re-potting into 5-inch or 6-inch pots. The compost should, if possible, be prepared a week or ten days before using, four parts good fibrous loam, which has been cut from an old pasture the previous autumn, and a sixth part of crushed charcoal or wood ashes. To every 2 bushels add 1 gallon of bone-meal, half a gallon of Clay's Fertilizer, and sufficient road sand and old mortar rubble—which should be passed through a quarter of an inch mesh sieve—to enable the water to percolate and pass away freely. Much will depend on the nature of the loam as to the amount required. The whole should be well mixed, so that each ingredient is thoroughly incorporated, and if turned at intervals, say about every other day, all the better. In no case should the soil be used in a wet condition, or, owing to the plants requiring to be firmly potted, it will unquestionably (especially when the loam has a tendency to be heavy) go together in a pasty condition, thus hindering free root-action, and many of the plants will in all probability become over watered. This will cause a severe check, from which they never properly recover.

Some of the varieties which naturally have a weak constitution should have a specially prepared mixture and more careful treatment than the general collection. Add a little thoroughly decayed leaf-soil and old Mushroom bed manure, passing through a quarter of an inch sieve; also some crocks, finely broken up, and some coarse silver sand. The weaker growing kinds should be kept together while under glass, and at all times be kept in pots, one if not two sizes smaller than the

more robust ones, over-potting and watering being fatal to them at all stages of their growth. Clean pots and crocks should be in readiness, and in every case careful drainage is of the utmost importance. It is not so much the quantity used, but the way it is placed and built up in the pots, and yet how seldom do we see this rule properly observed. There is no reason whatever why the drainage should not be as perfect when the *Chrysanthemum* has finished flowering as it was the day it was potted, providing it was well done and worms are excluded. One large crock should be placed over the hole of the pot in an inverted position, gradually building up with smaller sizes, the top layer being quite fine. On this place a thin coating of fibre taken from the loam heap, from which should be taken every particle of soil, so as to ensure the soil not interfering with a free water-course. Pot firmly, place a small stake to each plant before leaving the potting-shed, and return to the cold frames. The plants should enjoy plenty of room, and be sprinkled two or three times during the day to prevent flagging, but not watered through for three or four days. This should be thoroughly done by filling up the pots at least three times to ensure every part of the soil becoming moistened when the plants are ready. Very much will depend on the nature of the weather. In hot, drying weather they will probably require it about the third day, but if dull and rainy possibly not for a week. After this every plant must be thoroughly tested before watering; examine them twice daily, and never give any until the plant is quite ready to receive it. Syringe twice daily, morning and early afternoon; air freely, and in genial weather remove the lights entirely; avoid coddling the plants in every way, but always make provision against sudden attacks of frost, from which we are not safe for some time to come, as well-grown plants are easily damaged.

STOPPING.

Nip out the points of the shoots of many varieties to ensure flowers at their best from the beginning to the middle of November. Especially does this apply to the later flowering Japanese, and this is best performed from the middle of the present month to the middle of April. No hard and fast rule can possibly be laid down as to the exact date to perform this, as we are much at the mercy of the season, and that a very variable one; con-

sequently, this should be done at different dates, and mark the results. The whole of the Queen family should be stopped from the middle to the end of March; also Duchess of Fife, Mme. Ferlat, C. B. Withnell, Mrs. C. L. Egan, and Lady Isabel among the incurved; and International, Chatsworth, Simplicity, Le Grand Dragon, and Ella Curtis, the Japanese. The Mine. Carnot family are best stopped about the end of the first week in April. Fumigate the plants when in a dry state every ten days.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

INDOOR GARDEN.

CARNATIONS.

AUTUMN-rooted stock of the perpetual flowering type till now growing in 3-inch pots should have a move into large 4½-inch and 6-inch pots, according to the strength of the individual plants; that useful variety Mrs. Leopold de Rothschild (syn. Mme. Therese Franco) revels in an abundant root run, and 6-inch pots should be given, the less robust C. Winter Cheer will do well in 4½-inch pots; C. Americana, a bright scarlet variety of exceptionally good constitution, will also require liberal room to bring out its best character. A rich turfy loam from an old pasture, well broken with the hand, will form the staple, while the addition of leaf soil, Mushroom manure, and sand should be added to aid in keeping the whole in a porous state, and it is advisable at this stage to add a permanent tonic in the shape of dissolved bones or Thomson's manure. A neat pointed stick should be placed in each pot, and the centre of the plant attached thereto, as nothing tends to weaken the latter so much as when not properly secured; if inclined to grow tall without the necessary grass near the base the tops should be picked out. The present is a good time should the stock require replenishing to propagate afresh; pipings put in rather thickly round the edge of 4½-inch pots and plunged in a bed of manure in a frame, and the foliage kept moist, will readily take root, and if pushed ahead will make useful sized plants for next winter's flowering.

The Malmaison, after a winter of semi-rest, is now sending up its flower spikes rapidly, and they should have every attention given them. When tying up the flower stems the sticks ought to be examined, and if the least faulty replaced by sound ones; side growths appearing should be reduced in number; a dry atmosphere and abundance of air must still be maintained.

PALMS.

These, in common with other indoor plants, require attention, and while in no way fastidious as to the date they are repotted, the present may be taken as a suitable season in which to undertake this work. A proper quantity of soil should first be prepared, which, if made up of the following, will suit the class of Palms usually found in private establishments: Fibrous loam two parts, one leaf soil, half part sand (silver), and the remaining portion made up equally of ground charcoal and oyster shell; to this should be added a 6-inch potful of Clay's Fertilizer; a little peat must also be incorporated, the whole well mixed several times before using; clean pots, liberal drainage, and firm potting are essential. A thorough cleansing of the foliage should follow. The syringe must be carefully used in dealing with the more delicate types, viz., Cocos weddelliana, Geonoma Gracilis, &c.

J. F. McLEOD.

Dover House Gardens, Roehampton.

THE FRUIT GARDEN.

EARLY PEACHES—POT TREES.

SOME six weeks ago I touched upon fruit trees grown in pots for first supplies, and since that date the fruits will have made considerable progress, though at this date they may seem stationary. Whilst they are swelling the trees will need close attention. Of course with the Peach the Nectarine is included, as the treatment for both is identical; indeed, the latter fruit, if anything, is forced more readily than the Peach, since

such kinds as Early Rivers' and the Cardinal have been introduced, two splendid pot varieties and good forcers. With pot trees the chief points of culture are feeding and moisture. Of course stopping also should be included, but the pot trees do not make gross growths. If they are carrying a good crop at the same time it is well to reduce weak wood, to give light and sun to the fruits, and pinch lateral growths, regulating those needed for next season's wood at the base of the fruiting wood. Fertilisers or liquid manure in a tepid state may now be given freely, and to trees that are well laden with fruit apply a rich mulch. With more sun heat and longer days pot trees full of roots dry quickly, and the fruits suffer if at all neglected. Abundance of moisture should be the rule, damping floors and bare places several times daily, and well moistening the trees at least twice a day from all parts of the house to keep them clean. Close early before the sun declines to allow the temperature to rise freely. Avoid high night temperatures; the latter cause weak growth and insect pests.

EARLY PERMANENT TREES.

With regard to temperatures and feeding much the same remarks are applicable as advised for pot trees, but doubtless this house will be a little later, and thus form a succession to the earliest. The fruits will now be swelling away freely with increased sunshine and brighter weather, but even now I do not advise hard forcing; it is always best with cold north-easters or frosty nights to see the thermometer a few degrees lower than otherwise. Both the Peach and Nectarine soon fail when forced too hard, and though sun heat is not so much taken into account, as it is well to close early to raise the temperature, some practice is necessary to maintain the same at other times at the proper standard. With trees just approaching the stoning period the night temperature in mild weather may be 60°, and 5° to 10° higher by day, and any disbudding needed should be attended to, as now it can easily be seen what wood is misplaced. Foreright shoots that are strong should be cut back hard, and the side shoots on wood not carrying fruit stopped close. These will then form spurs and give good fruit next year. The shoots at the base of the fruiting wood should be trained in, placing them in the most favourable position to gain strength. Ventilate freely in mild, fine weather; remove badly placed fruits, and water the borders with liquid manure or fertilisers in a tepid state. Keep a sharp look out for aphids, and take measures at once to kill the pest when seen. Syringe freely after fumigating.

G. WYTHES.

Syon House Gardens, Brentford.

KITCHEN GARDEN.

SEED SOWING.

WE have now arrived at a time when seed sowing will form a very important part of the work in the kitchen garden, and those who, through the changeable weather, have not been able to proceed with the final working of the soil should lose no time in doing so. We may talk of good and bad seasons, but the grand secret undoubtedly lies in the proper preparation of the soil, which should be in such condition at the time of sowing as to crumble under the foot. On this the future success of the crop greatly depends, and the operation of seed sowing would be better put off even for another fortnight than performed when the ground is in an unfit state.

The first to claim attention, if not already sown, should be the main crop of Parsnips and Onions. A sowing of Leeks should also be made in drills 1 foot apart for the principal plantation in May or June. Leeks can be grown with a fair amount of success in almost any situation, providing the ground is in good condition; 30,000 are grown annually at Frogmore, and the majority of them on borders under fruit trees. When planting out they should be allowed 1 foot between the plants each way, and a liberal supply of water given if the weather is dry. The principal sowing of Brussels Sprouts should now be made, as they

require a long season to come to maturity; also Early Vienna Savoy, Early and Maincrop Cabbage, Cauliflowers, and Veitch's Self-protecting Autumn Broccoli, which, under favourable conditions, will give a supply of excellent white heads for a considerable time, thus filling up a gap between Autumn Giant Cauliflower and Snow's Winter Broccoli. The general sowing of Broccoli seed must depend to a certain extent on the time the ground for their cultivation will be available. The autumn and winter varieties, if sown in the open border, can scarcely be got ready too soon or the ground on which they are to be grown made too rich; but for plants intended to stand the winter and produce heads during the spring months a different treatment is required. To plant this section in rich soil full of manure is a mistake, because the conditions are such as to render the plants so succulent that they become an easy victim to the first sharp frost. These should be grown as sturdy as possible, and to this end they should be sown on rather poor ground, and planted in an open situation where the soil is not too strong. Broccoli plants have stood the winter remarkably well here, and this I attribute to planting without any manure on the ground recently occupied by Strawberries, which were hoed off in July. I am of opinion that if more consideration were given to the selection of ground for this section of Broccoli, such severe losses as are experienced would be considerably reduced. A plantation of Potatoes may be made on a south border, but no large quantity should be put in for another week; it only increases the labour in covering without sufficiently repaying the cultivator for his trouble. Now is a good time to make fresh plantations of herbs. Thyme may be planted 1 foot apart on light soil. Sage requires a little more space. Sorrel should be planted 18 inches apart. Chervil is always in demand, and frequent sowings should be made from now onwards in rows 1 foot apart. Mint should be planted singly with a dibber as soon as the young shoots are large enough for cuttings. Plant in rows 1 foot apart and 10 inches between the plants. Sweet Basil, the most tender of herbs, should be sown now in heat for transplanting in May. Marjoram may be sown and treated in the same way.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

THE FLOWER GARDEN.

PLANTING.

VIOLAS, struck too late in the autumn of last year to permit of their being planted before winter set in, should now be planted as soon as possible. They enjoy a cool, rich soil and partial shade, but it is not always possible to give them the one or the other, so it is best to plant early that they may be well rooted before drying weather sets in. These plants are often used as carpet plants for more tender things that have to be kept indoors until all fear of frost is over, and it is a common mistake to see all the planting put off till this time. Of course, where the same beds are used for spring and summer flowers, the latter cannot be put out until the former are cleared off, and this is an unavoidable difficulty, but where spring-flowering plants do not occupy the beds, all hardy plants should be planted early.

Bedding Calceolarias, too, are prone to die just when at the zenith of their beauty, and my experience is that this is largely due to late planting, the roots never gaining a grasp of the soil as they should do before the summer comes. The common method of planting these out under frames in rich soil at this time of the year, to be transferred later to their flowering quarters, is bad. They lift with good balls of soil, and apparently go on well until that soil is exhausted, and then utterly collapse. Far better is it to take them direct from the cutting frame and plant them during the first mild weather that occurs in March. These Calceolarias, though not entirely hardy, are much more so than Geraniums, and their close-growing form is such that they may readily be protected by inverting a flower-pot over each plant, and, if need be, a covering of tiffany or some light protecting material over all. Pentstemons raised in autumn from cut-

tings sometimes suffer from "black spot," which appears on stem and leaf during summer. This is partly constitutional, but may be greatly lessened by early planting, and one should not hesitate to plant now, even though the cuttings have made but little root. These plants are not harmed by spring frosts.

ROSE PRUNING.

In the southern part of the country Roses of the Hybrid Perpetual (so-called) section may be pruned, these being slower to break under the influence of mild weather than are the Teas. For fine flowers, cut back fairly hard and thin out all wood at all undersized, for the bushes always thicken more than necessary, and small wood only helps to crowd the rest.

INDOOR WORK.

The working up of stock among tender things for the flower garden should go on apace, so that the young plants may be of good size by the time they are wanted for planting. The few weeks in a higher temperature, which I recommended some time ago for herbaceous Lobelias, will have had the good effect of starting both root and top-growth. They should now be brought out from the warm house and gradually hardened. In their turn the zonal Geraniums should follow suit, but not so rapidly, as they are more tender; still, the earlier they are hardened in season the better they will transplant later. Autumn-struck cuttings of such things as Abutilons and other shrubby plants that may be used as "dot" plants in beds must be potted off singly and treated well that they may grow into nice specimens. Look through seeds in stock, and sow those tender annuals which do not make very rapid progress, but leave the quicker-growing ones, such as Marigolds, Zinnias, and Phlox Drummondii, which suffer through too early raising, to be sown next month.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

A SHADY WALK.

WALKS that are in complete shade are an essential for summer comfort in every garden. The one now illustrated is a pergola, the shade of whose climbing plants is made heavier by that of the surrounding trees and shrubs. The presence of these auxiliaries is not perhaps very good for the actual climbing plants on the wooden structure, but they combine to make a pretty and pleasant shady way.

ROSE GARDEN.

PRUNING ROSES.

IN districts where there is immunity from spring frosts pruning should not be delayed a day. I would prune in February were I sure that the plants would escape injury from May frost. I do not like to prune when growths are very forward, for not only do they "bleed," and consequently cause a weakening of the plant, but some of the best eyes are lost if one prunes back to dormant eyes, as should be done.

I am firmly convinced that pruning has been overdone in the past. Insufficient attention has been paid to the character of the Rose pruned and the kind of wood removed.

Now, all the Rambler tribe, the Ayrshires, the Evergreen Roses, Penzance Briars, Austrian Briars, single Roses of climbing or vigorous habit, Scotch Roses, and Macartney Roses should not be pruned at all,

i.e., their growths should not be shortened. Where laterals are strong and numerous they may be shortened back a little, and each year one or more of the oldest growths are best cut clean out, not only to provide more light and air to those remaining, but also to make the plant throw out new growth from the base, and thus keep it vigorous and healthy. But on no account tip the growths to alter the character of the plant. The semi-drooping branches, like the hedge Roses, never appear so beautiful as when retained in their natural style of growth and laden with trusses of blossom. With the many beautiful climbing Teas and Noisettes July is the time to do any pruning necessary. Now, all that should be needful is to cut out dead wood, shorten laterals to 2 inches or 3 inches, and remove one or more of the superabundant growths of the greatest age. The fine long growths made last summer will give the best blossom, and should be preserved even if some three or four of the older growths are discarded.

Newly planted climbing Roses should always be pruned back quite half their length the first season, and even as far back as 18 inches would be all the better for the future of the plant. By adopting this plan the basal eyes are compelled to break, and thus the foundation is laid for a well-furnished specimen instead of one lanky and bare.

Rambling Roses on pillars and chains are all pruned after flowering or any time between July and September. The work now necessary is to remove dead wood, if any, and retie the growths to well-secured stakes.

ROSES FOR PEGGING DOWN

must have their growths retained the desired length, but do not bend them over until April.

In pruning the Hybrid Perpetual, Hybrid Tea, and Tea-scented it should be clearly understood whether exhibition flowers are required or merely for the garden. One cannot have exactly quality and quantity as well. If the plants are grown for show, the hard ripened wood of the previous year should be looked after, and all the weakly and old growth cut out.

Strong growers may have their growths retained

from 12 inches to 18 inches in length. Prune moderate growers to the best plump eye, high or low, and weak growers, such as Xavier Olibo, cut back to two or three eyes.

Where a profusion of blossom is desired, the old wood should still be cut away to a great extent, that is, wood more than three years old; but the last summer's growths are very slightly shortened. Where much cut bloom is needed with long stems, a separate set of plants should be grown for this. It is unreasonable to suppose that we can gather great bunches of blossom from our plants, some of them with 1 foot to 1½ feet of growth, without seriously undermining the vigour of such plants, and if we would see bold masses of Roses develop into fine bushes, the knife should be spared as much as possible at all times.

Three points should be kept in view in dealing with Roses for garden decoration, and they are: Plenty of space between the plants, a free thinning of the centre of the bush or standard, and very sparsely pruning the best and youngest growths.

By pruning to an outward-looking eye we encourage this widening of the plants, and if needful with stiff growers it may be still further assisted by inserting some firm pegs in the ground and slightly spreading out the shoots and attaching them thereto.

STANDARD ROSES

of the free-growing kinds, such as W. A. Richardson, require very little pruning provided they have escaped injury by frost. If their growths bend over umbrella fashion they appear more picturesque when laden with blossom, and are very beautiful objects when well grown and secured firmly to a good stake. Crimson Rambler, Aimée Vibert, and others on standards, pendulous with blossom-laden growths, are objects of much beauty, and this can only be secured by very sparse pruning.

SUMMER ROSES

of the moss tribe, the Cabbage Roses, Gallicas, Maiden's Blush, and such like are generally overpruned, and much of their beauty lost.

New growths should be encouraged in every way, and these only very slightly pruned, but some of the old wood must be cut clean out each year.



A PERGOLA THICKLY COVERED WITH CLIMBING PLANTS—A SHADY WALK IN SUMMER.

ROSES IN THE WILD GARDEN

will need attention. Do not allow them to become a thicket of growth. With the secateurs remove some of the centre shoots and allow the others to tumble away as they like, and, of course, entirely without pruning.

I would not advise the pruning of Tea and Noisette Roses of the dwarf section before the first week in April. They will probably be very forward, but experience teaches the uselessness of pruning prior to this date. PHILOMEL.

NICOTIANA SYLVESTRIS.

THE accompanying illustration shows a group of this now well-known Tobacco, *N. sylvestris*, which has in a large measure taken the place of *N. affinis* in English gardens. *N. sylvestris* is a handsome plant, as the illustration shows, and is especially imposing when thus grouped. It is quite unlike *N. affinis*. The flowers are produced with great freedom, are tubular in form, very fragrant, and pure white, and do

Chysis lavis.—The smooth-lipped *Chysis* is an ornamental species, with medium-sized flowers of a bright shade of orange, with a white lip distinctly spotted and striped with carmine. It comes from Mexico.

Cypripedium lansbergeae.—A very handsome, rich dark red hybrid form, the result of a cross between *C. bellatulum* and *C. Boxalli*. The slipper is comparatively small and the foliage marbled.

Schomburgkia Humboldtii.—An exceedingly beautiful as well as rare and little-known species, with handsome spikes of white and lilac flowers with a deep carmine tube and lip.

The March number of *Revue de l'Horticulture Belge* has a fine double plate of the well-known *Solanum Wenlandii*, perhaps the handsomest member of its family. It requires plenty of room and a warm temperature, such as that of the tropical Nymphaea house at Kew, to enable it to be seen in its full beauty.

The first number of the *Revue Horticole* for March also contains a portrait of the same handsome *Solanum*, which, however, by no means does such adequate justice to the beauty of the plant as the Belgian representation.

curious dull red bracts round the pedicels, uniting each flower with the main stem. It bloomed in a hothouse in August, 1900.

Kalanchoë Benti.—A native of Southern Arabia. A rather pretty member of the Crassula family, with bunches of pure white flowers and pink buds.

Mastorallia decursa.—A native of New Grenada. A very remarkable species, differing from all others by its strictly pendulous habit, resembling that of *Cattleya citrina*. It was first bloomed in cultivation by Mr. Moore at Glasnevin Botanic Gardens. W. E. GUMBLETON.

SHORT STUDIES ON PLANT LIFE.—VI.

THE LESSER CELANDINE.

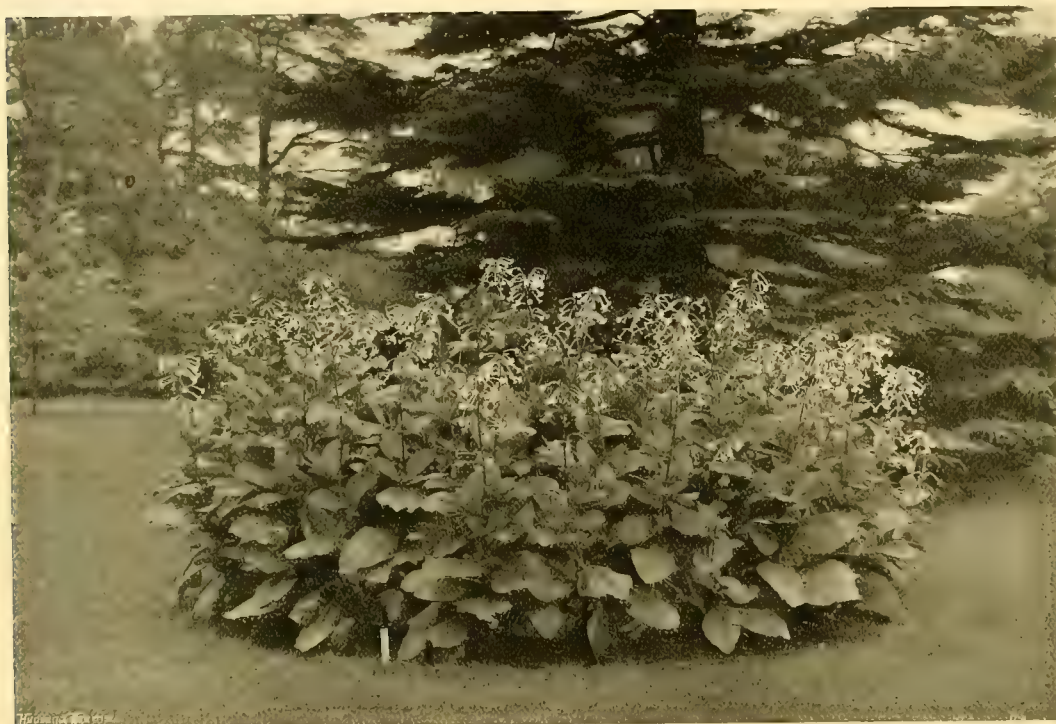
THE Lesser Celandine is not particular where it grows; sometimes it may be seen in thousands out in the open fields, yellowing them in anticipation of its brother Buttercups; for it is a Buttercup, but its golden flowers have several instead of five petals. Somehow it has

forgotten how to make any use of its flowers, for it rarely sets seed now, yet it has the little honey-pot at the bottom of each petal, from which insects may suck sweet nectar, who then bustling about scatter the pollen from one flower on to another to secure "cross-fertilisation," according to Nature's way of doing things. The reason is that it multiplies itself by means of little buds below ground, which are given off by the stem, each bud being provided with a club-shaped root full of starch and other good things wherewith to live upon when it gets detached from the parent plant, and so can grow up into a new one, for many plants which increase *underground*, fail to seed *above* it, inasmuch as the pollen is arrested in its formation and so is ineffectual, as in the Horseradish and the Saffron Crocus.

It has, however, another way of producing progeny. If the Lesser Celandine happen to grow in a damp, shady place it may bear no flowers at all. It then makes little pill-like balls in the "axils" or corners between the base of the leaf-stalk and stem. These have no particular structure, but when the plant decays they fall out and develop roots below with a bud above and grow up into a new plant; so that this plant can, under different conditions, multiply in three different ways. In Southern

Europe, Malta, &c., it grows into a much finer plant than in England, having larger leaves and flowers, almost equal to those of the Marsh Marigold, so that botanists have called it the variety *calthæfolius*.

Now, what is its history? The leaf is rounded and smooth, quite unlike the divided, hairy leaf of a true Buttercup. The form suggests that of the Marsh-loving *Caltha*, or that of the aquatic Frogbit; or, again, even of a Water Lily in miniature. If we cut up its stem and leaf-stalk we find air-chambers, so characteristic of all water-plants. If we examine its leaves with a microscope we find the preponderance of breathing pores, called "stomates," to be on the upper surface, as is the case with the floating leaves generally. If we let the seeds grow we find they possess only one seed-leaf, instead of two as in Buttercups and the familiar Mustard and Cress, when we eat them. What do all these things mean? That we must infer that this Celandine's ancestor was



A GROUP OF NICOTIANA SYLVESTRIS.

not close up in the daytime, but remain expanded in the hottest sunshine. This is, of course, a point of much importance. The flowers of *N. affinis* collapse in the sun, and only revive when the cool evening air fans them into life and gives them the power again of distilling their sweet perfume. As this is the time for sowing *N. sylvestris* seed in gentle heat under glass this note may induce those who have not tried it to do so this year.

RECENT PLANT PORTRAITS.

THE second part of the sixteenth volume of *Lindleya* contains portraits of the following four Orchids:—

Cattleya lansbergei.—A most beautiful flower, the result of a cross fertilisation effected between *C. aurea* and *C. labiata*. The petals and sepals are of a pale rose colour with a large fringed lip of a deep rosy purple outside and an almost white centre, exquisitely shaded and veined.

The March number of the *Botanical Magazine* contains portraits of the following five plants:—

Hymenocallis scizostephana.—A native of Brazil. A distinct but not very ornamental member of this family, nearly allied to *H. tubiflora* or *Pancratium guianense*. Its flowers are pure white and also fragrant.

Modecca senensis.—A native of Mozambique and Delagoa Bay. It is also known under the synonym of *Clemanthus senensis*. This is a member of a genus of tropical African, Asiatic, and Australian plants, containing nearly forty known species, but almost all of them unknown in cultivation, only one of them having been hitherto figured in any English horticultural work, the *M. lobata* in *Botanical Register* on plate 433. All are unisexual climbers. The flowers are tubular and pendulous, of a greenish white colour outside and pure white within. They are also fragrant.

Calogyne Veitchii.—A native of New Guinea. This is a very distinct but by no means specially beautiful member of a family of which nearly a hundred specimens are known. It produces long, pendulous racemes of pure white flowers with

an aquatic plant, having descended from some lost ancestral Buttercup which took to the water, and the above-mentioned features are the effects of living a submerged life, with only the rounded leaf-blade floating on the surface, while the flowers doubtless rose up into the air. Many years ago, however, it got tired of living in the water and became a land plant. Again it fitted itself for a new life by producing breathing pores in the underside of the leaves, as is usually the case with land plants. Force of habit, however, made it retain the above-mentioned aquatic features, which thus betray its former mode of life.

GEORGE HENSLOW.

AN ARTIST'S NOTE-BOOK.

GALAX APHYLLA.

A PLEASING plant is this, and one of the many good things that have come to our gardens from North America. It deserves a front place, for it has something to show all the year. The thin strong leathery leaves all rise from the root on stalks of so wiry a character that on handling them they remind one of those of *Epimedium pinnatum*. After the graceful white flower-spikes, which appear in late summer, are over, the leaves become spotted and mottled with a fine red colour, which spreads until, in late autumn and early winter, some leaves become wholly red, while nearly all are prettily coloured. This excellent plant likes a shady or half shady place in damp peat, or a light vegetable soil of sandy leaf-mould.

THE UNHEATED GREENHOUSE.—III.

SOME HINTS ON CONSTRUCTION.

Too often it happens that we are the victims of circumstance and have to make the best of what falls to our lot, but when we can be the architects of our own fortunes in greenhouse matters it is well to know beforehand exactly what we want. Without pretending to enter into details, which must be regulated by individual cases, let me crave permission to set down a few points of construction of special importance to the well-doing of the unheated greenhouse which have come under my own notice.

To begin with, a few words on

ASPECT,

which, though they may apply equally well to all plant houses, may not be out of place here. It is an accepted fact that a span house, wherever it is possible, is far and away the best form of glass structure for the successful culture of plants. It is warmer and lighter, and in it a genial atmosphere can be more easily maintained. An open position, away from high walls and trees, should be chosen for its site, with a run, by preference, from east to west, which, on the whole, gives the best results. A lean-to house, especially when wanted for early-flowering shrubs or bulbs, should be placed, if possible,

against a south wall; but for a conservatory east, west, or even north, should be chosen rather than a southern aspect, which is generally far too scorching in spring and summer for the well-being of plants in flower, though necessarily colder in winter. It has happened to me to enter into possession of a conservatory so badly planned at the outset, though intended to be imposing, and such a veritable sun-trap, that it was hopeless to try to keep it well arranged with fresh-looking foliage or flower. Ultimately it was turned into an abode for Cacti and succulent plants—for which it was passably well adapted—much to the amusement of friends, who, nevertheless, were often much interested by an inspection of what they were pleased to call my “prickly oddities.” For strictly decorative purposes, therefore, a north aspect may be not without its advantages. Otherwise it is to be avoided, as it can only be used successfully for certain shade-loving plants, of which *Lapageria* may be given as a notable example.

Site and aspect being chosen, the special needs of the unheated greenhouse must be considered. These are dryness, ventilation, and shading.

DRYNESS.

It may seem absurd to insist upon dryness as an essential point in a plant house, which, from its very purpose, must be more or less damp; but there is always a point when a blessing may become a curse, and of all worries and annoyances in a cold greenhouse there are none greater than drip. The evil is not so urgent in summer, though

even then there are bulbs put aside to ripen, or succulent plants on no account to be over-watered, which the drip is sure to visit in preference to the moisture-loving plant a foot or two distant; but in winter, when heavy rain is often speedily followed by hard frost, to have pot plants soaked with water and then frozen is simple ruin, and means many a heart-break. It is by no means a very easy matter to avoid this trouble, and carpenters inexperienced in horticultural building have sometimes to be employed, especially in the country, and they are apt to make mistakes. It is probably safer to put all such work into the hands of some well-known and established firm, but it is a very general practice in these days to obtain woodwork and glass all ready to put together and to do the fitting on the spot with such assistance as is at hand. When this is done care should be taken to insist on well-seasoned wood, the lack of which is a fruitful source of mischief. Forewarned is forearmed, and a few hints to those who have to overlook an inexpert workman or to do the fitting themselves may be helpful. The slope of the roof, the quality and lap of the glass, and the shooting to carry off the surplus rainfall are all matters of moment which cannot be provided for at haphazard with impunity. It is an axiom well understood by gardeners, but not so well by amateurs, that a plant house should be no higher than is actually necessary for the plants grown in it, allowing, of course, comfortable head room for the cultivator. In other words, the plants should be as near the

light as possible, a lofty house in most cases being positively detrimental to them. On the other hand, a low-pitched house will, as gardeners say, “keep the moisture down,” which means a damp-laden atmosphere. Now this is just what is wanted in some cases—e.g., in a Cucumber pit—where strong heat and heavy moisture are essential factors in successful culture; but in an unheated house moist air, which in winter is liable to be stagnant and must



GALAX APHYLLA. (From a drawing by H. G. Moon.)

be chill, is exactly what we have to avoid. To put it more accurately, we must have it in our power to regulate the degree of atmospheric damp, supplying moisture when required in hot, dry weather, but keeping mostly on the side of moderate dryness both in summer and winter. Where the roof is steep, however, hot sunshine will cause a rapid upward current, which dries the air so thoroughly that plants will quickly droop, and unless constantly refreshed they will soon hang out signals of supreme distress in the way of blight. Not only so, but a steep roof takes more glass and presents a greater surface to frost. A happy mean must therefore be struck, and it lies between the two extremes of 25° and 35° or at most 40°, with the proviso that the house be kept as low as it reasonably can be in accordance with its proposed purpose, whether it be for dwarf-growing alpiners or flowering shrubs or Roses. For a small house 20 feet by 12 feet, a good average slope would be 37°, for if the width be narrow a higher pitch is required to give standing room; but in planning a house it is much better to allow for as much breadth as possible, as it will be found more convenient in every way.

Careful glazing is a point in chief for the prevention of drip. Glass of 21oz. quality should always be used, to save breakage amongst other reasons, and a good average size for the panes is 22 inches by 14 inches. It has been lately pleaded in a monthly serial of highly artistic authority, that greenhouses should be built "as of old, with small sheets of glass laid thickly overlapping, and more proof against scorching and freezing than the neat, big-sheeted, modern kinds," and from an artistic point of view this advice cannot be gainsaid. There is truth, too, in the argument that thick overlapping may give more shade in summer and greater protection in winter, though it does not counterbalance other disadvantages; but greenhouses, unhappily, are not picturesque, and we must be content meanwhile with the practical side of the question. So let the gardener court all the light that is so essential a factor in the well-being of the plants. An overlap of half an inch is quite enough. When it is broader green mould collects, which is not even picturesque in its ugliness, while in hard frosts the moisture which lodges becomes frozen and very often cracks the glass. Smoothly ground edges to fit closely without any lap are sometimes recommended, but the panes are liable to slip and occasion needless trouble. In any case this plan is better left unattempted by unskilled hands. As a hint to an inexperienced glazier and to ensure a water-tight roof, the squares should be well bedded in putty, which must be neatly trimmed off within and without—no outside putty being required—and it is well to use, besides, four brass tacks to keep each pane in place. If these small details are not overlooked and the woodwork kept at all times thoroughly well painted inside and out, there ought to be no fear of annoyance from drip. An excellent method adopted by a thoroughly practical horticultural architect is slightly to round off the lower edge of each pane of glass, which attracts the wet to the middle point and greatly lessens the risk of drip.

It is no less important to avoid ground damp, and good brick or concrete paths in a working greenhouse are a great boon. In a conservatory opening out of rooms a flooring of tiles that are non-porous is very desirable. Flags are commonly used for this purpose, especially in the country, and perhaps look better, but they "hold the wet," and if quite plain tiles are chosen there need be nothing to offend the eye, while the gain is great. In hot weather the floor can be sprinkled several times a day, and the moisture will quickly find its way into the air and leave no puddles behind it. Borders are not to be recom-



PEAR BEURRE RANCE. (*Slightly reduced.*)

mended, as has been said before, or any kind of planting out in a conservatory, especially in a small one, partly, though not wholly, on account of ground damp, but this must be a matter for individual taste to decide.

Delightful as it is to look out upon a garden picture of bright flowers close at hand when all beyond is shrouded in fog or iron-bound in frost, it must be granted that a good deal of damp, very undesirable but easily communicated to a sitting-room, is a not infrequent sequence of the privilege, especially when the conservatory is unheated. It can be mitigated, however, if not altogether avoided, overhead by the thoroughly sufficient system of glazing that has been here recommended for the prevention of drip, and under foot by a floor tiled throughout, which effectually precludes the rising of moisture from the ground.

SHOOTING.

An abundant supply of rain water close at hand is important, no less for the convenience of the cultivator than for the welfare of his plants, and no working greenhouse should be built without a tank of some sort to hold the rainfall from the roof and proper gutters to convey it into the right receptacle. The waste of water in this land of ours is enormous, and it is a subject which calls for much more serious consideration by experts than has hitherto been given to it. In a small way—*e.g.*, from the roofs of glass houses in private gardens—much good, pure water is allowed to run away for want of proper shooting, soaking into the ground, where it makes a swamp and doing harm where it should be an unmixed good. A well cemented covered tank below the ground level with a pump is perhaps the most convenient form of reservoir, as its holding capacity may be as great, in reason, as space and circumstance will permit, and certainly greater than that of any cistern than can be placed in the greenhouse itself. An open tank possesses this advantage, however, that the water it contains is tempered and never so cold as that which is drawn from below; but it takes up room, and, unless very well planned, is ugly. For some positions a barrel half-hidden by Ivy answers very well, and may be made a pretty feature; but, in truth, standing water in an open

tank is better outside than within an unheated greenhouse, so long as there is a supply close at hand. The shooting in most general use is 3-inch "half-round" iron guttering, held up by brackets; but 3-inch "three-quarter round" spouting is better for heavy rainfall, as it is a great nuisance to have an overflow running down the glass and finding its way into the greenhouse instead of into the tank. In fixing the gutters a fall of from 3 inches to 4 inches should be allowed in a length of 50 feet.

Before passing on to other conditions of temperature dependent on ventilation and shading, it may be well to suggest here that much vexation and trouble will, generally speaking, be saved if the plan of the greenhouse or conservatory be made on the simplest lines. As far as my experience goes most round or octagonal houses with a lantern-shaped addition at the top are less adapted to answer the needs of the average amateur, as they are of the professional gardener, than the more usual straight-lined forms, which also have the advantage of being less costly.

One more item. It is becoming more and more the custom to add coloured glass in some shape or form to plant houses. Sometimes it is intended as an embellishment, sometimes as a screen from too neighbouring houses. Be that as it may, it can scarcely be too forcibly stated that the plant grower who is content with plain, clear panes will find himself the happier man in the long run. The question of taste is another matter. Here we are only concerned with the best methods of growing plants under certain conditions and enjoying them to the utmost, and, though I admit that it may be prejudice, yet my earnest advice to anyone who has it in his mind to build a greenhouse is to eschew all and every sort of stained glass in its construction.

K. L. D.

HARDY FRUITS IN SEASON.

WITH reference to late Pears, the belief was general at one time, and is more or less so still amongst gardeners, that to grow late varieties of Pears successfully the assistance of expensively built walls was an absolute

necessity. If the few notes I have had the opportunity of writing for *THE GARDEN* on this subject will have done nothing more than help to dispel this erroneous impression, I hope some slight service to future planters and to the public will have been afforded. All the varieties I have mentioned up to now, with the exception of Winter Nelis, Beurré Rance, and, in a qualified degree, Knight's Monarch, may be successfully grown in the open quarter of the garden, and a few also as standards in the orchard. It may not be amiss to recall the names of the varieties already mentioned as succeeding well under these ordinary conditions as bushes or pyramids: Beurré de Jonghe, Le Lectier, Bergamotte d'Esperen, Dana's Hovey, Doctor Joubert, Easter Beurré, and Doyenné d'Alençon, the latter, and also Bergamotte d'Esperen, succeeding well as standards in the orchard.

Pear Passe Crassane.—As a variety ripe in March this is indispensable, and should be included in every collection. It succeeds well as a bush or pyramid, or even as a standard in the orchard, provided the ground it grows on is well drained and the position is fully exposed to the sun. When well grown it is a handsome fruit of good size, and the flavour is very rich, sweet, and decidedly aromatic. In cool seasons, and under neglected conditions of culture, the fruit is inclined to be rather gritty, but with generous treatment and an ordinarily bright sunshiny season the variety does well here even as an orchard tree.

Ne Plus Meuris.—I am decidedly of opinion that there are two distinct varieties of this Pear in cultivation, one most excellent as regards quality, flavour, and fruitfulness, the other with more or less a gritty tissue, simply a worthless fraud. As an orchard Pear this variety is one of the most fruitful and satisfactory sort we have, and, like Doyenné d'Alençon, it is much improved in flavour by being subjected to artificial heat for a few hours before it is wanted for dessert. Intending planters of this Pear should be careful when ordering trees to stipulate that the true sort is supplied to them.

Duchesse de Bordeaux.—Although this variety has received the first-class certificate of the Royal Horticultural Society, I must say that with us it has been a disappointment and a complete failure as regards quality and flavour. It will keep any length of time, but instead of ripening up mellow and sweet it shrivels and dries most disappointingly. The same remarks apply to Anna Nelis, which from its many points of resemblance must I think be one of the parents of the above.

Josephine de Malines.—This superb variety is so well known and so generally grown that it need only be mentioned as one of the most hardy, prolific, and deliciously flavoured late Pears we have. It succeeds well in the open, and is best grown on the Quince stock.

Epine du Mas.—This is a very distinct, pretty, prolific, and moderately sized late Pear, and succeeds well as a bush or standard in the open. It is usually ripe early in January. Flesh white, melting, juicy, and sweet, but without any distinct flavour.

Windsor.

OWEN THOMAS.

Use of *Celtis sinensis* leaves.—A short time ago a gentleman sent me two or three leaves of a tree which he said were used at Wenchow in a green state for polishing pewter, and asked me for the botanical name of the tree. The leaves appeared to be those of a *Celtis*, and I have little hesitation in saying that they were those of *Celtis sinensis*.—W. J. TUTCHER, *Botanic Gardens, Hong Kong*.

INSECT PESTS. THE WOOD LEOPARD MOTH.

(*ZEUZERA ESCULI*.)

PERHAPS nowhere in the British Isles is the Wood Leopard Moth so abundant, or are its ravages on so extensive a scale, as in the London parks and gardens. Its attacks are principally confined to the Elm, Spanish and Horse Chestnut, Mountain Ash, Beam Tree, Thorn, and Poplar; but it is a strange fact that although the specific name applies to the Horse Chestnut, few if any observers have reported its attacks on that tree, while several have drawn attention to the omission.

In Greenwich Park, the reverse is, however, the case, for the depredations of the caterpillar of this moth are almost exclusively confined to the wood of the Spanish Chestnut, the Elm coming second, and various species of *Pyrus* and *Crataegus* following.

It is the upper half of each tree that is usually attacked, rarely the main stem or heavier branches, and when one tree falls a victim, numerous others in close proximity are affected; indeed, in one instance that came under my notice, almost every Chestnut tree in a long avenue had fallen a prey to the depredations of the caterpillar of this beautiful and formidable moth. Rarely, however, have I known healthy trees to be attacked, but usually such as are in a declining condition, whether from age, unsuitable soil, or atmospheric impurities, the latter frequently around London. The tunnelling of the caterpillar soon causes a collapse of the woody tissue, and often so weakens the branch or stem that it readily snaps across in windy weather, but this is particularly the case with standard Thorns, or the Beam and Apple trees when in a young state. Often the presence of the caterpillar in these latter trees may be readily detected by reason of the curious swollen or thickened appearance of the stem or branch at the points of attack; indeed, some of the Mountain Ash and Thorns have an unnatural and unsightly appearance owing to these gouty growths.

The life-history of the Wood Leopard Moth is interesting, but has rarely, from the difficulty of making observations, been told in its entirety. In early summer the yellowish-coloured eggs are laid singly in a hole or crevice of the bark, the larvæ, which require three seasons to attain perfection, eating their way during the first season into the soft wood immediately beneath the bark, when they are only about a quarter of an inch in length. The second season the caterpillar has attained to three-quarters of an inch in length, while in the third year, when full maturity is arrived at, the length is fully $1\frac{1}{2}$ inches. A dirty or greenish-yellow would best describe the colour of the caterpillar, the body being indistinctly dotted with black, while the head and tail are of a conspicuous jet black. The jaws of the caterpillar are more powerful than those of any other native species, as will be readily inferred from the beautifully cut tunnels in the stems and branches of the Thorn and Chestnut, even when the wood of these trees has become almost petrified through age or disease. They do not avoid the hardest wood, but would seem to tunnel quite indifferent to the texture of the timber through which they pass. It is interesting to note the size of tunnel made by the caterpillar at the various stages of growth, that of the first year being an eighth of an inch in diameter, that of the second a quarter of an inch, and that of the third frequently half an inch.

When about to enter on the chrysalis state, the caterpillar either betakes itself to the extreme end or near the entrance of the tunnel, where it forms an outer covering by neatly lining the tunnel with small pieces of Chestnut leaves, and a cocoon by partly utilising the inner bark of the tree, the latter forming a case so strong that it can only be torn with considerable difficulty. Usually, the extreme end of a short gallery is used for hibernation, rarely a cavity near the entrance, which is proved by the fact that I have many examples of

the former and few of the latter. Occasionally several chrysalids are found end to end in the same tunnel. From these the perfect moths emerge the following spring. As far as my observations extend, it would appear that the caterpillar does not generally enter the chrysalis state till February or March, as I have found numbers of these in all stages of growth moving about in the galleries as late as the end of January.

As is well known to entomologists, the Wood Leopard Moth is one of our largest and most beautiful species, the delicate colouring of the wings and striping of the body rendering it particularly distinct and handsome.

When fully expanded the wings are $2\frac{1}{2}$ inches across, and the body about $1\frac{1}{4}$ inches long. The wings are white, with yellowish-brown veins, a row of conspicuous bluish rounded spots running between every two, while the head and thorax are covered with a thick white pile, and the abdomen with a black down, fringed with white at each joint. The moth flies during the evening and night, and usually frequents open portions of the woodland or fields and gardens that are surrounded by trees. Its lifetime does not appear to exceed two months.

It may seem hard to suggest the destruction of so beautiful a moth, but the amount of damage committed to timber by the caterpillar will be found sufficient reason for waging a war of extermination. To cope with the ravages is, however, by no means an easy task, unless in the case of small trees that are readily accessible for examination, for, as before stated, the tunnelling is usually engaged in at a considerable height from the ground, and near the branch tips, where remedies are difficult of application. In the case of small trees, such as the Thorn and various species of *Pyrus*, where the entrance holes are readily detected, I have found the following methods fairly satisfactory:

1. With a piece of unctuous clay form a cup-shaped receptacle around the aperture, and fill this with gas tar. The tar, following the course of the tunnel, generally kills or expels the caterpillar.

2. Insert a piece of cyanide of potassium into the entrance hole, and plug with clay or wax to prevent the fumes escaping.

3. Plug the holes with a mixture of soot, lime, and cow manure, the two former in about half the bulk of the latter.

4. A piece of pliable wire inserted into the hole has been successfully used in killing or dislodging the caterpillar.

Where a number of trees are attacked, and the top branches dying in consequence, pruning off and burning the dead wood will result in the death of large numbers of the caterpillar, and prevent the spread of these by doing away with the diseased or decaying wood, in which they seem to delight to form their galleries. As the caterpillars rarely attack the stems of large trees, this method of coping with the evil will be found both simple and satisfactory.

A. D. WEBSTER.

MISCELLANEOUS.

THE GROWING OF MISTLETOE.

IN many parts of England Mistletoe is found growing in the woodlands on Lime, Sycamore, Poplar, and other forest trees, but few have seen it on Oak. These growths are only found in the southern and midland counties; in the far north it is never found in a wild state. Many tree lovers, however, are desirous of having this curious parasite, and the difficulty has been overcome by inoculation. As the proper season is fast approaching when the operation can be most successfully performed a few words on the subject may not be out of place.

One tree in a north country garden where some observations were made bears both the male and female growth. This specimen is about twenty years old. The Apple tree on which it grows is stunted somewhat, but shows no sign of decay. It still bears fruit but sparingly. It is in good soil in a flower border, well dug and manured.

Other growths in the same grounds are on Apple, Thorn, Peach, &c.; some eight or nine are fairly established. In no case has the bark been slit and the seed of the Mistletoe inserted and bound up, as some growers advocate. In one, however, the bark has been scraped and all the cork bark removed from the spot chosen for inoculation.

The usual method of all other of these growths is as follows: The seed is ripe in late April or early May; a fine berry is selected and a branch near the trunk of the tree is chosen, but it is important that this branch should be young. The bark should be, if possible, of two years' growth. The operator squeezes the berry and presses it on to the branch. The seed (there is only one in each berry) is lying in its own sticky pulp, which glues it firmly to the bark and the air soon hardens it into a compact mass. Birds are great enemies at this stage, being very fond of the berries. It is probably through them instrumentally that wild Mistletoe is grafted. The seed may, however, be saved by inoculating on the under side of the branch, where alighting birds cannot see it.

Mistletoe has a curious way of growing, and requires many graftings and much patience. It seems to lie dormant for many months, but the gradual evolution goes on unseen. The seed does not send its root into the bark but waits for the new layer of bark to enclose it, and so finds the necessary sap for its nourishment. Each year the finger-like root or sucker is, by reason of each fresh layer of bark, sunk deeper and deeper, and a tree cut down and sawn through has a most curious appearance, being apparently bored into by the many suckers of the parasite. This is, however, only to be observed after many years' growth. At the end of the first year from inoculation, if successful, a tiny green leaf stem is seen on the spot operated on if carefully examined, lying close to the bark; this shows the germination of the ovule or seed, which now finds the sap needed for its nourishment in the surrounding new bark. The stem develops slowly, and some months later two tiny leaves appear and the plant may then be said to have made its start in life.

Many are the failures of the amateur, but many trials on various parts of the various trees and much patience usually herald success, and Mistletoe growing is extremely interesting work. The graft (or inoculation) seems to require plenty of air, sun, and rain, as it has little else to nourish it in the earlier stages.

MARTIA.

AMERICAN NOTES.

ROSE GROWING UNDER GLASS.

As Rose growing under glass is a great feature of American gardening, and successfully pursued, the following extract from *American Gardening* should interest our readers:—

The first thing to consider is a suitable house, as it is useless to expect good Roses without such a house. I consider the regular so-called three-quarter span house, running east and west, long span to the south, the best.

SOIL.

Probably one of the most important items in Rose growing is soil. While it is a fact that good Roses have been grown in all kinds of soil, varying from light to stiff clay, all are agreed that a moderately stiff loam from an old pasture is the best.

Cut the sod 3 inches or 4 inches thick and heap in a convenient place. The soil may be put up in the autumn or spring before the season for planting. It should be turned a number of times before using so as to rot and be made fine. Put about one-fourth well rotted manure (cow manure preferred) to three-fourths soil. You may also add about one part pure bone dust to fifty parts of soil. All should be thoroughly mixed before wheeling into the house.

PLANTING.

Having a suitable house and well prepared soil you may begin planting about the 1st of June. The earlier after this date the better, though I

have seen good Roses that were planted as late as August.

If you have first quality glass that will not burn the foliage, no shading will be required; otherwise, a very light shading on the glass during the hottest weather is preferred.

The benches should be about 4 inches deep with ample drainage. These should be filled so as to have 4 inches or 4½ inches of soil after it is settled. Mark the rows with a line lengthwise the benches and check across with a straight-edge, and you are ready for planting. The distance apart will depend on the variety of Rose. About 12 inches by 14 inches or 15 inches is proper for such varieties as Bride and Bridesmaid.

Procure only strong, healthy plants that have been kept growing without check from the time they were potted from the propagating bed. See that the ball with roots is not dry and hard when planting. It is well to give plants a thorough watering a few hours before planting, as they will then be in the right condition. Plant carefully a little deeper than they were in the pots, making the soil firm about each plant. Give them a thorough watering, and keep them growing right along, keeping all buds pinched off as soon as they appear, until the plants are strong enough to give good flowers.

Keep your plants tied in position during the entire season. It is well to go over them once a week, tying in any branches that may need it, and at the same time pick off any dead or diseased leaves. Also stir the surface of the soil lightly—not more than half an inch. This will kill all weed and grass seeds that may be starting. Some growers object to disturbing the soil at all, but I am convinced that it is beneficial, if done lightly. In any case, no weeds or grass must be allowed to become established.

Keep the house scrupulously clean—the walks and under the benches as well. All dead leaves should be burned instead of thrown into some corner to breed disease.

Many growers mulch their plants, and if you can give careful attention to watering it is a good thing. If the plants are set early, you may put on a light mulch, consisting of three or four parts of well rotted cow manure to one part of soil in August or September, and again in January or February.

After the short and often dark days of December and January, you may give liquid manure regularly every ten days or two weeks if plants are growing vigorously. Take care that the liquid is not too strong.

WATERING.

Water properly applied is a very essential feature in Rose growing. Examine benches carefully every day, giving water just where needed. Water thoroughly so as to wet soil to the bottom; then give time to dry out, as it will not do to allow the soil to become sodden.

Syringe the plants several times a day during hot weather. They will need it oftener if there is no shading on the glass. The walks should be wet at the same time to keep down the temperature. This syringing is not only useful in keeping a moist and cooler atmosphere, but it is the only way to prevent "red spider."

VENTILATION.

This is another important feature, as the health and ability of the plants to withstand insects and disease (such as mildew) are largely dependent on the way the ventilators are handled. Our vents are never closed day or night during the summer months, except when it is raining—even then the side vents are left open. When we have cooler nights and the temperature runs below 60° outside, it is well to start a little fire, but leave vents open a few inches. Give plenty of ventilation whenever the weather will permit. Mildew is more likely to attack plants which have been kept too close than those which get an abundance of fresh air, even if a little draught should happen to strike them.

Open your ventilators a little in the morning as soon as the sun raises the temperature a few degrees above the normal night temperature. As the sun warms the house more raise your vents

higher, until at noon you have on all the air the plants will stand. Reverse this in the afternoon, lowering your ventilators gradually until they are finally closed. Start fires early enough so that the temperature will fall gradually to the point at which it is to be kept through the night.

INSECTS AND DISEASES.

Red spider and aphid (green fly) should never be allowed to gain a foothold. Frequent syringing on all bright days will keep down red spider, if well done. The spray should be given an upward shoot, so as to hit the underside of the leaves. Aphid is prevented by fumigating regularly with tobacco in some form. It seldom makes its appearance with us until cold weather sets in, as the heavy syringing keeps it off.

Tobacco stems should not be used for fumigating after you commence cutting the flowers, as it will injure the buds, no matter how carefully done. Probably the best method is to evaporate a concentrated tobacco extract. Whatever method is used, the house should be fumigated regularly once a week.

The Rose bug is not often heard of now. Hand picking is the only remedy. Thrips are sometimes troublesome, causing ill-formed buds, especially on American Beauty. Hard fumigating will eventually dislodge them.

There is no need to have mildew. It seldom attacks thrifty plants if proper attention is given to ventilation. For a preventive it is well to paint one or two of the heating pipes with sulphur mixed with a little lime to make it stick. If it should make its appearance before firing begins, dust the affected plants with flowers of sulphur.

Black spot will not give trouble if watering and syringing are done early enough in the day to give the foliage time to dry before night, and if firing is commenced as soon as you have cool nights.

SUPPORTS.

No one would think of growing Roses now without proper supports. These should be placed in position as soon as the plants begin to grow.

The best support is furnished with about No. 9 galvanized wire stakes. Run No. 18 galvanized wire over each row of plants about 3½ feet above the top of the bench, stretching it tight and securing it well to cross pieces placed at the ends of the benches. Place a 4-foot wire stake for each plant, and secure it to the overhead wire. This will hold the stakes steady. Tie the growths to these stakes all through the season, but do not bunch like a stalk of celery ready to blanch. Give each shoot its proper place, so that the plants may have the full benefit of the sun and air. Some growers use wire rings, slipping them up as the growth goes higher, but I do not deem these advisable, as they bunch the plants too much.

PROPAGATION.

Propagation is usually commenced in January, and may be continued until you have taken all the cuttings you will require, though it should all be done before the warmer weather sets in, while you can keep the temperature under your control.

Select only strong, healthy wood, cutting to two eyes or more according to the wood. Insert these in fresh sand in a bench, so that you can give a little bottom heat, and keep the temperature overhead as near 55° as possible, shading lightly. A close atmosphere is to be avoided.

As soon as the cuttings make roots half an inch or less, pot off carefully into 2-inch or 2½-inch pots. Do not allow them to become pot-bound, but shift along into larger pots as needed, and keep growing right along.

VARIETIES.

Bride (white) and Bridesmaid (pink) are perhaps the most popular Roses for winter flowering, and give the most satisfaction. These may be grown in the same house with entire success in a temperature of 55° to 58° with a rising temperature of 10° to 15° in sunlight.

Wootton (red), President Carnot (flesh), Mrs. Morgan (rose pink), and others may also be grown in the same house with Bride and Bridesmaid with fair success, but I would not advise growing more than two or three varieties in the same house. That

grand Rose, American Beauty, requires a slightly higher temperature and special treatment. Meteor, another beautiful Rose, must have a separate house, with a night temperature of 65° or 70°.

In growing a house of mixed Roses, it is necessary to select such varieties as do well in the same temperature, as an even temperature must be maintained, not allowing it to run too high one night and too low the next.

In closing I would say it is not so difficult to grow Roses under glass if careful attention is given to the small details.

TRAIL PRICE.

COLCHICUMS.

THERE are many bulbs that can be planted in grassy places to flower in spring and early summer, but for autumn the Colchicums, with the exception of some Cyclamens and a few Crocuses, have the field nearly to themselves. They are natives of cool grassy land, and will do in any soil that is not too dry. They are much best in grass, but if they are grown as flower garden plants they should be arranged to rise through some green thing that will both take off the naked look of the leafless flowers and also serve to support them. The patch of flowers, if not in any way held up, is sure to be disfigured by the falling over of some of the blooms, the long tube being too weak to stand without support.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

LONICERA HILDEBRANDIANA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—You may congratulate me if you like on a great piece of success; at any rate, I congratulate myself. The case is this. As you may perhaps remember, this superb Honeysuckle blossomed with me last summer, and I was very much surprised at the glorious exhibition it made after a residence in the open border of only a few weeks.

Its happiness was due to the extraordinary heat which it met with against a western wall, and the level rays of the sun suited it to the last degree. All was easy and all went well with it after blossoming till the summer had passed away, and the cold days and colder nights of autumn had again come upon us. Then I was landed in a difficulty which I esteemed to be very great. No plant can ever be at the very height of prosperity which year by year is dug up and then planted again; it may simulate a kind of success of which it feels itself capable, but it is a poor business after all when you put it beside a full, natural, and unrestricted growth without let or hindrance. So that the alternative—and a very serious one it was in my eyes—came to this: Was it wise to leave this denizen of the tropics exposed to all the rigours and severity of an English winter, or must it be better to put up year by year with a kind of tentative effort on its part and to imagine the rest? There was a good deal to be said for either supposition, and the worst part of exposing it to any risk was the fact that if lost I might never be able to get hold of it again, and assuredly under any circumstances I should miss a five year old plant which had done so well in my hands. But I could not help thinking, perhaps it may surprise us all, as other things have done, by pulling through the hard months of the year, and if it were to do so, its value would be immeasurably increased and a grand sight would follow. Visions of tropical beauty floated before one's eyes, and a representation of Burmah in the open air was extremely attractive. So after very finely drawn consultations, and after pros and cons had been discussed on either side, it was decided at last that the most adventurous course of the two should be taken, and we would hope for the best.

When once this had been settled—though not without much misgiving about it—the next thing was to find out the very best measures that could be taken by which the safety of the Honeysuckle could be secured. Some persons even recommended that after the fashion of a railway carriage it should have a hot bottle at night, and very curious and far-fetched ideas came to the rescue in our need, but it soon settled down to this: I had a sort of cupboard or sentry-box constructed over the plant, of which the front door was easily removable in fine weather, so that light and air might be given.

In this way it was hoped that the severity of a hard frost might be checked, and it was easy enough to shut the door and to fill up the cupboard with bracken or hay if the worst should come to the worst. At any rate, our ingenuity went no farther than the above, and the rest depended on the amount of constant care that our treasure would be found to receive. As a matter of fact, I do not think it has once been left in the lurch. My gardener has taken a great deal of interest in it, and the first two minutes of his morning work (it required no more) and the last at night were expended upon it. I confess that the Honeysuckle has given me off and on a rather anxious time. When the stars were glittering overhead and the window pane was significant of frost, I felt that I should have a far better chance of sleeping well if I knew that my Burmese visitor was in safety, and once or twice I unlocked bars and bolts and made an excursion into the garden to look after it myself. All was quite right, and I sometimes found in the morning that 3° or 4° of frost had been endured without the slightest harm; the thermometer could be trusted about that. It may seem a long story about nothing to anyone who reads these lines, but if so that person does not care much about flowers.

My Honeysuckle has been quite a joke against me in Ryde through the winter months, and I am quite free to confess that when the question came, as it often did, "How is your Honeysuckle getting on?" I thought it was almost as natural, though not quite on the same level, with "I hope your children are quite well," and I answered it seriously. But now all danger is over. It is true that there are many slips between the cup and the lip, and the Ides of March have not come, but I can take things very quietly now. At the present moment it is raining fast, and if we do have a few snaps of frost before next midsummer day I have a firm confidence that *Lonicera Hildebrandiana* will not be deterred by them in the least, but will go on swimmingly; indeed, I should very much like to know, though I have no intention whatever of putting it myself to the test, how many degrees of cold this plant can endure with impunity. I fancy that they would be a great many more than perhaps one would have suspected, and as for extreme heat there is no limit to it at all.

One curious thing about my adventure with *Lonicera Hildebrandiana* is this: the wall that has stood it in such good stead is precisely the same western wall that a few years ago brought death and destruction to the finest *Fremontia californica* that was to be found in this country—at least, Mr. Noble, of Ascot, said that a short time before it came so completely to grief. It was one morning in full vigour and doing well, and it was smitten down to the ground by sunstroke before the evening of the next day. Not only has *Fremontia californica* met with a sad fate in this very hot situation, but several fine *Magnolias* have signified that it was past their endurance, and a very nice specimen of *Fabiana imbricata* is soon frizzled up and becomes quite brown unless it is shielded from the glow. But now it turns out that this baking western wall can be of great use after all. It is smitten by the fierce rays of the sun, and I can hardly keep my hand upon it at all at the hot season of the year. But this is life and health and strength for a Honeysuckle from Burmah; it thrives under such circumstances with delight, and the very thing which had been a drawback in most other cases is now a clear gain. It teaches one to look on everything from two sides, and I think that the American writer and cheery optimist, Emerson, if he had seen it would have said, "This is just what I always tell you does take place," and his paradoxical but most significant expression if it be understood aright, "the good of evil," has here a most forcible illustration. My western wall, which has positively barred any chance



COLCHICUM AUTUMNALE IN GRASS.

of success for a great many years, puts success into my hands at last beyond my wildest dream.

H. EWBANK.

St. John's, Ryde, Isle of Wight, February 27.

OLEARIA HAASTI.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was very pleased to read the appreciative note about this beautiful shrub by Mr. W. J. Bean in the last number of *THE GARDEN*, and it may be of interest to some of your readers to know that it is quite hardy here (Forfarshire), near the sea, although it is frequently cut down inland. I had a good many bushes planted in a very exposed garden in the autumn of 1893, and have not lost any of them. Here it stands the cold cutting east and south-east winds from the North Sea much better than Portugal Laurel, which is browned and disfigured every spring on the exposed side.

I have also had *O. macrodonta* and *O. Gunni* growing here for several years; the former is the more vigorous shrub, and has very beautiful foliage; the latter I have seen with the tips of the branches scorched by cold winds. It has a neat habit and dark coloured leaves.

I am inclined to think that *O. Haasti* resents peat in the soil. In the most sheltered part of my garden there is a peaty tendency, and there the bushes are less vigorous, but perhaps some reader with more experience will correct or confirm this impression. The soil here is a warm sandy loam on gravel sub-soil, and seems to suit those shrubs without any special preparation. I know of one plant in a neighbouring garden that is at least twelve years old. One does not see it in full beauty every year, but in the seasons when it does flower well the whole bush is a mass of white, and the dead flower stems should be left on as a protection in the winter to the young shoots.

A single plant keeps well clothed to the base, and one of mine which suffered badly from wind during the winter of 1893—just after planting—and was very bare near the ground is now nicely furnished with green to the base.

The inland plants I have known cut down badly in winter were in districts where the white frosts are very severe—and in one instance the soil was half peat—I would like to see it tried in a drier even if a colder climate. Hares seem to be partial to it.

WILLIAM LOW.

Tighnamuirn, Monifieth, N.B.

CHISWICK GARDENS AND THE STUDENTS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I am inclined to think that the letter of "A Fellow," which appeared in your issue of the 2nd inst., and especially the editorial note thereto appended, will meet with the warm approval of the large majority of the Fellows of the Royal Horticultural Society. It is certainly not too much to say that if a hall were to be erected as a mode of celebrating the centenary of the society in lieu of the establishment of the proposed new gardens, a very serious blow would be struck at the welfare and prestige of the society. It is clear that both objects cannot be undertaken at the same time. The adoption of the one must of necessity retard the other for a very considerable period, and as to which has the more pressing claim there can be no possible question. "A Fellow" indicates some of the points in which the present Chiswick gardens are lamentably deficient, and it is no exaggeration to say that as a centre for the conduct of trustworthy horticultural trials Chiswick has already practically ceased to have any true value.

A new hall would truly afford room for further addition to the already too great reduplication of the contents in the great trade exhibits, and, perhaps also, for a few more visitors during the brief London season, but these are the trade and social aspects of horticulture, and surely do not exhaust the purposes for which the Royal Horticultural Society exists. In fact, we have in the present contest a revival of the old issue of social *versus* purely horticultural aims, and with the experience of South Kensington before us there

ought to be no doubt as to the course which the society should pursue. As the matter stands, the Council is under the direct mandate of the Fellows to regard the new gardens as the chosen object of the centenary celebration, and the only function of the Council under present conditions is to use our diligence in selecting a suitable site, subject to the approval of the Fellows of the society, to be formally expressed in general meeting. RUSTICUS.

INDOOR GARDEN.

GOMPHRENA GLOBOSA.

GOMPHRENAS, or Globe Amaranths, are exceedingly pretty greenhouse plants, the most useful of which are *G. globosa* and its numerous varieties. The beautiful compact flower heads are at their best about the month of August, and remain for a very long time in full beauty; in fact, so lasting are they that they may be cut and placed in the house before they are fully developed, and used in the way that are our so-called everlasting flowers, the *Helichrysums*; but for late summer conservatory or greenhouse decoration, neat and shapely plants of the Globe Amaranth, about 18 inches or 2 feet in height are difficult to surpass for general usefulness. The several varieties are mostly named according to the colour of the individual flower heads, for instance, we have *purpurea*, *alba*, *carnea*, &c.; *nana*, bearing dark red flowers, and growing hardly above 6 inches high, is one of the most interesting. A point that should commend *Gomphrena globosa* to everyone is the ease with which it may be cultivated, and also the small amount of labour and attention involved. The present is the most suitable season to sow seed from which the Globe Amaranth should be raised. Place the pans in which the seed is sown in a warm house or pit, and shade from the sun. When the seedlings appear, give them a position on a shelf quite near to the glass, and shade them only in the hottest part of the day. When one can conveniently handle the tiny plants they should be placed singly into small pots, and so soon as they are nicely rooted it is well to give them a cooler temperature, such for instance as that provided by a warm frame. Encourage them to grow quickly by closing the frame early in the afternoon, and using the syringe freely at the same time to render the atmosphere sufficiently moist. In due time the flower heads will begin to form, and then is the moment for the final potting. I have seldom used pots larger than 4½ inches in diameter, and find that very satisfactory plants can be grown in them. When later it becomes necessary to give a slight top-dressing of Clay's or Standen's fertilizer they derive all the more benefit from such an application than if they were in larger pots. After the removal into the 4½-inch pots, cooler treatment should be allowed, that is to say, so soon as the plants are well rooted into the new compost. T. F. W.

SWEET BASIL.

IN many gardens a constant supply of this sweet and interesting herb is an important matter, for although with careful attention such may be maintained, it is a very expensive article to purchase in midwinter. Unless treated properly, Sweet Basil will damp off wholesale if a few damp foggy days are experienced. We have found it to succeed far better in 6-inch pots than in boxes, as was formerly our method of culture. The seed is sown in September in pans filled with light soil, and barely covered over. When the seedlings are ready for removal place a dozen or so in a 6-inch pot, filling as many of these as are required. It is important to keep them near to the glass or they will become weak and unable to satisfactorily withstand the bad weather later. A most important point is to raise a good number of plants, and for this reason one-third of the number should be picked over first, so that by the time the remaining two-thirds have been gone over the first portion

will have grown again, especially if assisted, as the plants should be, by being plunged in a hot bed. Care should be taken that the shoots are not pinched back too hard or they will have a great difficulty in breaking into growth again. Unless a fair quantity of plants are cultivated, the first portion would not have time to recuperate before a second pinching, with the result that they would soon be crippled and useless. A dry, warm, and buoyant temperature is most essential to the successful winter culture of Basil, for the least excess of moisture in the house will cause them to decay, so tender are they and susceptible to dampness. Early and plentiful sowing, moderate pinching—only possible where plants are plentiful—a hot bed to assist growth, and a dry and warm atmosphere are the most important points to bear in mind when attempting the culture of Sweet Basil. T. W.

BOOKS.

The Queensland Flora.*—We have received Parts I. and II. of this important contribution to the flora of Queensland, to be completed in six parts. To everyone interested in the flora of the world, that dealing specially with Queensland, the home of many beautiful plants, must prove interesting. The work when completed will contain full descriptions of indigenous and naturalised plants, their distribution, local and aboriginal names, properties, uses, &c., and the plates illustrate some of the rarer species. The introduction to the work consists of a most valuable "outlines of botany, with special reference to local floras," and there is a useful glossary of terms. The descriptions are strictly botanical; indeed, the book reminds one of Hooker's valuable "Flora of the British Isles" in its general features.

Highways and By-ways in East Anglia.†—This is a delightful book, pleasantly written, and freely illustrated. We care more for the letterpress than the frequently crude and unsatisfactory sketches, but a faulty illustration here and there cannot hopelessly spoil a work so full of racy humour, vivid pen pictures of a beautiful country, and revealing a true knowledge of the flowers of field and waterside. The author's description of Flatford Mill, East Bergholt, the famous mill painted by Constable, shows his warm appreciation of restful scenery. "Before me are the open levels of the Stour Valley, a wide plain of pleasant pasture land, where cattle are grazing amid whispering sedges and gleaming Willows. As I cross the rustic wooden bridge which spans the river a little way below the mill, I hear the rushing of water over a weir, and following the footpath by the riverside I soon come to the lock-gates. A few steps further and the mill itself comes in sight on the opposite bank of the stream. It has altered little since Constable painted it nearly a hundred years ago, but the trees which then gave it a sylvan setting almost hide it now, and to see it clearly I have to cross the river again. But the old wooden lock is quite unchanged, and so, too, is the towing-path, which was one of the artist's favourite haunts. Giant Burdocks, pink Hemp Agrimony, dingy Pigwort, and large-leaved Comfrey grow close beside it, and it is fragrant of Water Mint and Almond-scented Meadowsweet. A more peaceful scene one cannot imagine. Not a jarring sound breaks the spell of its quiet beauty. The stream flows silently until it falls over the weir, and even then its voice is as soothing as part of a summer breeze among summer leaves. Now and again a rat rustles in the sedges or a fish makes a faint splash as it rises to the surface of the mill-pool. Brilliant-hued dragonflies flash like living gems above the bright green water-weeds, beautiful as the flickering sun-gleams which steal through the Willows to the stream. A lad who came down to the river to fish has

* "The Queensland Flora." By F. Manson Bailey, F.L.S. Published under the authority of the Queensland Government by Messrs. Gordon and Gotch, 15, St. Bride Street, London, E.C.4, at the price of 5s. each part.

† "Highways and By-ways in East Anglia." By William A. Dutt, with illustrations by Joseph Pennell. Published by Macmillan and Co., London. Price 6s.

fallen asleep on the bank, where he was half concealed by mauve-flowered Water Mints. His rod has fallen from his hand, and its line is entangled with a patch of stout-stemmed Hemlock in the stream. His stillness reminds me that Constable, while painting here one day, sat so still that a field-mouse crept into his coat pocket." The book is well bound and printed.

Golden Centenary Dwarf French Bean.—In your "Answers to Correspondents" column, March 2, in reply to "C. J.," you write: "The Bean you refer to as the Golden Centenary Dwarf French Bean is no doubt the well-known Dwarf Butter Bean Mont d'Or." This is not correct, as the Centenary is quite a new and distinct variety.—JOHN WOOD, *Penrith*.

Cotoneaster vulgaris in Conway.—I have much pleasure in recording a find of the above, in the vicinity of Conway, last month (February), thus extending the district named for it, viz., "the Great Orme's Head."—J. K.

National Auricula and Primula Society.—The twenty-fifth annual exhibition of the southern section of this society will be held in the Drill Hall, Buckingham Gate, Westminster, under the auspices of the Royal Horticultural Society, on Tuesday, April 23.

National Carnation and Picotee Society.—The exhibition of the southern section of the above society will take place at the Crystal Palace, Sydenham, on Friday, July 19. The directors of the Crystal Palace have promised £50 to the funds of the society and free passes to members.

National Rose Society—Show Fixtures.—June 12 (Wednesday), Colchester; July 3 (Wednesday), Croydon; July 4 (Thursday), Norwich; July 10 (Wednesday), Great Stanbridge; July 13 (Saturday), Manchester.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

Cyclamen flowers of distinct colour from same corm.—We have received flowers of the ordinary Persian Cyclamen which show an interesting sport. The flowers, a pure white and a bright carmine-rose, have been kindly sent by Mr. Thomson, Cally Gardens, and we advise the sender to take care of it. There are so many beautiful Persian Cyclamens, however, that for anything to be better than existing varieties it must possess almost abnormal excellence.

Scottish Horticultural Association.—The usual monthly meeting was held on the evening of March 5, at 5, St. Andrew Square, Edinburgh; Mr. Charles Comfort presided, and there was a large attendance. A paper on "The Root Management of Fruit Trees" was contributed by Mr. N. Temple, Carron House, and read by the secretary, in the absence of the author through illness. There were some good exhibits, which included two very fine Orchids from Mr. Wood, gardener to Mr. James Buchanan, of Oswald House, and a number of excellent blooms of Rhododendron Countess of Haddington, by Mr. A. Johnston, Hay Lodge, Trinity. The usual votes of thanks were accorded at the end of the meeting.

United Horticultural Benefit and Provident Institution.—The annual meeting of this excellent institution (of which a report is given in another column) was held on Monday last, and the society (to quote the report) continues in a sound and flourishing condition. Eighty-three members joined during the year; the membership now stands at 851. The committee appeal earnestly to all gardeners to take a practical interest in the society, so that its scope may be increased. All particulars relating to the benefits and advantages accruing from membership may be obtained from the secretary, Mr. W. Collins, 9, Martindale Road, Balham, and all young gardeners that are not members should communicate with him.

Woolton Gardeners' Society.—A meeting of this society was held at the Mechanics' Institute on March 7. Mr. R. Todd presided over a good attendance. The chairman, in introducing Mr. R. Orrett, of West Derby, who had selected the important subject of manures, referred to the importance of farmers and gardeners having a

practical knowledge of this department of his vocation. The lecturer, in addition to a clear and lucid description of many of the more important kinds in general use, had a number of specimens, which helped the members to form a clear and closer knowledge of the various kinds. Questions were invited, to which a number of replies were given, adding many details and instructions in connection with form and season of using. At the conclusion a unanimous vote of thanks was tendered to Mr. Orrett for his valuable and practical hints in this feature of gardening and farming.

Messrs. Mackenzie and Moncur, Limited.—The exhaustive guide issued by this well known firm of heating and ventilating engineers, of Edinburgh, Glasgow, and London, contains interesting illustrations of houses erected by Messrs. Mackenzie and Moncur in many different gardens. Included, for instance, is the Palm house in the Royal Gardens, Windsor; a block of plant houses at Sandringham; the splendid north wing added to the temperate house in the Royal Gardens, Kew; the range of plant houses in the Royal Botanic Gardens, Edinburgh, &c.; erections at Falkland Park, South Norwood; Elveden Hall, Suffolk; Linton Park, Kent; Waterpark, County Clare, and numerous other well known gardens and parks throughout Britain, and also on the Continent. Even in Sweden Messrs. Mackenzie and Moncur have erected glass houses. An illustration is given of a range in the gardens at Kongelf, Sweden. Designs of window conservatories, wall copings, span and lean-to frames, and also of everything pertaining to the heating of glass houses and rooms are contained in the guide, and are well worth perusal by all interested.

Proposed National Sweet Pea Society.—A meeting was held on Tuesday afternoon, at Winchester House, Old Broad Street, to consider the question of establishing a society to continue the work of the committee that was inaugurated last year to celebrate the bicentenary of the introduction of the Sweet Pea into Great Britain. In the absence of Mr. N. N. Sherwood, the chair was taken by Mr. Percy Waterer, who opened the proceedings by reading letters from Messrs. R. Dean and H. J. Wright to Mr. Sherwood, and the receipt of which accounted for the latter gentleman's absence from the meeting. The chairman then called upon Mr. C. E. Wilkins, hon. secretary pro tem., to read the correspondence between Mr. R. Dean and himself relative to the meeting, and also the numerous letters from various sources in favour, and otherwise, of the proposal. These included some of the most influential people in the horticultural world. Mr. Scrutton then proposed "That in the opinion of this meeting it is desirable to form a National Sweet Pea Society." This was seconded by Mr. Sankey, and carried with only one active dissident, though some half dozen persons refrained from voting. Mr. S. B. Dicks moved, and it was seconded, that the promoters of the present scheme, Messrs. P. Waterer and C. E. Wilkins, be deputed to confer with the executive committee of the bicentenary celebration with a view to securing their co-operation in the movement. Mr. Wilkins explained that Mr. George Gordon, V.M.H., had assured him that the deputation would be received by the executive committee at a meeting to be held on Monday afternoon next. Mr. H. J. Wright proposed "That this meeting be adjourned until Tuesday, March 26, in order that the question of a Sweet Pea Society may be considered in all its bearings." Mr. R. Sydenham, Birmingham, seconded the motion, and it was carried unanimously. This will give ample time for the conference, and should ensure an amicable working agreement, without which the greatest good cannot possibly be done. Mr. C. E. Wilkins, 19, Lyndhurst Road, S.E., will furnish any information relative to the meeting to be held at Winchester House on the 26th inst., when it is hoped that Mr. N. N. Sherwood will take the chair.

TO CORRESPONDENTS.

CORRESPONDENTS are urgently requested in all cases where the well-doing or otherwise of some

plant is described to name the locality from which they write.

We often receive letters which, it is true, give the post town of the writer, but unless it is some well known place we have difficulty in identifying the county or district. We shall be much obliged if correspondents will save us the trouble of a sometimes difficult search.

It is also of much help to others if cultural notes or personal experience in the particular soil or locality is given with the notice of the plant.—Eps.

SOCIETIES.

THE NATIONAL CARNATION AND PICOTEE SOCIETY (SOUTHERN SECTION).

REPORT FOR THE YEAR 1900.

THE committee much regret to report the loss of an unusually large number of members by death, many also have withdrawn from the society, a fact probably to be accounted for by the many appeals made upon the public during the year. The accession of new members has, however, been most encouraging, forty-three having joined during 1900, and several already for 1901.

A copy of the "Carnation Manual" (the best and most useful work on the culture of the Carnation) is given by the society to all members on their accession, and a packet of Carnation seed from the unrivalled collection of the president is also presented to all subscribers of 10s. and upwards.

Your committee gratefully acknowledge that the success attained by the society is in a very great measure due to the untiring interest, devotion, and liberality bestowed upon it by the president, and they feel that they would be failing in their duty did they not take this opportunity of expressing their great indebtedness to him.

The schedule for 1901 remains as last year, with the exception of two prizes being added to the class for table decoration. The committee hope and believe that the very liberal list of prizes now offered, the classification of which has been arranged to suit all classes of growers, will secure for the society an increased patronage and support.

The committee desire to call special attention to the classes for undressed flowers to be shown with a sprig of foliage only and without cards. These flowers can now be staged either in boxes, glasses, or bottles at the option of the exhibitor.

The committee particularly desire to call the attention of members to the report of Mr. H. H. Cousins and Mr. E. Charrington upon the result of the experiments carried on at Wye College, and to these gentlemen and also Mr. A. D. Hall, and the staff of the college, they desire to express their great obligation. This report should prove of very great interest to the members, and will doubtless be greatly appreciated.

Some dissatisfaction has been expressed by members of the society at the responsibility taken by the committee in altering the date of the society's show to meet the supposed exigencies of the season. The committee have given the matter their fullest consideration, and have decided that in future the date of the show shall be a fixture, and will not be altered.

The committee desire to tender their best thanks to the manager of the Crystal Palace Company and to its staff for the able and courteous assistance rendered. Their best thanks are also due to the Rev. H. Honeywood D'Ombrian and the members of the Horticultural Club for the use of their rooms at the Hotel Windsor, at which the meetings of the society are held.

THE NATIONAL AURICULA AND PRIMULA SOCIETY (SOUTHERN SECTION).

ANNUAL REPORT FOR YEAR 1900.

THE committee regret the loss to the society of several members by death and withdrawal, but are pleased to state there has been an accession of thirteen new members during the year. The committee again appeal to members to do their best to induce others to join, and wish to point to the fact that the honorary secretary will gladly send reports to any member who may wish for extra copies to send to friends who may be likely to join the society, and there must be many who would gladly do so if the advantages of membership were put placed before them.

The twenty-fourth annual exhibition of the society took place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, April 24, 1900, in conjunction with the Royal Horticultural Society, the two exhibitions combined making a very beautiful display.

The committee desire to tender to the Rev. H. Honeywood D'Ombrian and the members of the Horticultural Club their best thanks for the use of the club room for their meetings during the season; to the council of the Royal Horticultural Society the committee beg to tender their deep gratitude for the liberal donation of £10 to the funds of the society, and tickets of admission to the exhibition; and to the Rev. W. Wilks and Mr. Wright for the admirable arrangements made for holding the exhibition.

The committee beg to call the attention of members to the two classes in the schedule for those who have never won a prize at any of the society's exhibitions.

The committee, in recognition of the generous treatment so long received from the council of the Royal Horticultural Society, have deemed it expedient to become affiliated to that society, and believe by their action they are serving the best interest of the National Auricula and Primula Society.

Mr. James Douglas of Great Bookham, Surrey, again

most generously offers to supply members with a packet of Alpine Auricula seed saved from best exhibition varieties to such as will undertake to sow the seed themselves and cultivate the plants; and on condition that they apply for the seed in writing to Mr. T. E. Henwood before June 1.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE annual meeting of this society took place on Monday last at the Caledonian Hotel, Adelphi Terrace, Strand. Mr. W. Roupell was in the chair, and there were also present Messrs. W. Taylor, W. P. Thompson, J. Hudson, Winter, Summer, Humphreys, Wheeler, Harding, &c.

The minutes of the last meeting having been read and confirmed, the secretary read the annual report and balance-sheet, which follow:

The committee have great pleasure in presenting the annual report and balance-sheet for the year ending January 14, 1901, and stating that the society continues in a sound and flourishing condition. Eighty-three members joined during the year, nineteen lapsed, and four died. The membership now stands at 851 (January 14, many have since joined). The amount of subscriptions paid by members to the benefit fund, including arrears, was £1,346 14s. 8d. The sick pay account was £301 3s., there being a great amount of sickness during the early part of the year. This is covered by deductions of 8s. 10d. and 5s. 10d. respectively in the two scales. The balance in this fund (including £1,203 0s. 10d. in lapsed members' account) is now £13,371 0s. 8d. The benevolent fund has assisted several members during the year, the amount paid out being £82, leaving a balance of £3,403 15s. Three members have been assisted from the convalescent fund, £6 10s. being paid out. Mr. Sherwood and Mrs. Campbell gave £5 5s. each to this fund. There is now a balance of £428 12s. 11d. The management expenses are somewhat heavier than usual, the secretary being paid up to date, which has not hitherto been done; 5,000 reports were printed and distributed. It was also the quinquennial year for valuation, the actuary's fee being £12 12s. Balance in hand, £65 4s. 3d. The annual dinner was again a success; Mr. G. Munro made an able chairman. The society's accounts were audited by Messrs. G. Dixon, W. Gunner, and T. H. Puzey, and found correct. The committee gratefully acknowledge the assistance received from the horticultural Press, and trust always to receive its cordial support.

The chairman, in moving the adoption of the report, said that the society was fortunate in having good business men on its committee, for its working was so intricate; it was really a combination of several societies. He said they were greatly indebted to Mr. John Wright for his earnest endeavours on their behalf in past years. Members should be proud of the fact that their society was established by working gardeners, and was carried on and chiefly supported by them.

Mr. J. Hudson seconded the adoption of the report, which was carried unanimously.

After some discussion as to the number of reports to be printed, it was resolved by thirteen votes to eleven that 5,000 be printed instead of 3,000, as was at first suggested. The best method of distributing these was discussed. The chairman said he would take 100, and he hoped each member would also distribute as many as possible.

The committee, on the proposition of Mr. Hudson, were elected *en bloc*. Votes of thanks to the treasurer, Mr. J. Hudson, and the trustees, and the re-election of the secretary, together with a vote of thanks to the chairman, and to Mrs. Collins for so ably assisting Mr. W. Collins, brought the meeting to a close.

BRIGHTON AND SUSSEX HORTICULTURAL SOCIETY.

LIST OF LECTURES FOR THE YEAR 1901-2.

THE meetings of the society, of which Mr. J. Thorpe, 53, Ship Street, Brighton, is the secretary, will take place at the Imperial Hotel, Queen's Road, Brighton, at 7 p.m., on the following dates, when lectures will be given, and competitions for prizes held, at which all members and subscribers are entitled to be present:—March 21, Mr. W. Taylor, "A Year's Work in the Vinery;" April 18, Mr. Edwin Beckett, "Culture of Vegetables;" May 16, Mr. H. Elliott, "Carnations, their Culture, &c.;" July 18, Extraordinary Meeting—Talk over Spring Show; August 15, Mr. F. W. E. Shrivell, "Further Experiments on Fruit and Vegetables, with Chemical Manures;" September 19, Mr. J. Cheal, "Hardy Fruit Culture;" October 17, Mr. R. Dean, "Town Gardening;" November 21, Mr. T. W. Sanders, "Soils, their Chemical Composition, &c.;" February 20, 1902, Mr. H. J. Jones, "Talk about Chrysanthemums." List of shows, 1901: April 16 and 17, spring show, at the Royal Pavilion; August 27 and 28, summer show, at the Royal Pavilion; November 12 and 13, Chrysanthemum show, at the Royal Pavilion. Annual meeting, January 16, 1902.

READING GARDENERS' ASSOCIATION. "BEGONIA CULTURE."

THIS was the subject of an exceedingly practical paper read by Mr. F. Lever, The Gardens, Hillside, Reading, before the members of the Reading and District Gardeners' Mutual Improvement Association at their last meeting. The president, Mr. Leonard G. Sutton, occupied the chair, and there was a large attendance. Mr. Lever dealt very fully with the subject under the following headings:—Seed, soil, preparing for sowing, sowing, treatment, shading, air, pricking off the seedlings, potting, planting out, labelling, lifting, seedlings for pot culture, starting old tubers, tubers for planting out in beds, fibrous-rooting for bedding, division of roots, preparing the beds, propagating double tuberous varieties from cuttings, seed saving and fertilisation, storing tubers, winter-flowering Begonias, Rex varieties, insects, and rust. A very interesting discussion followed, in which

Messrs. L. G. Sutton, Hinton, Bright, Wilson, Fry, Wicks, Neve, Townsend, Harris, Macdonald, Crechley, Pigg, G. Smith, Alexander, and Barnes took part. A feature of the meeting was the numerous exhibits staged by the following members:—Mr. F. Lever, *Calla elliptica*, *Odontoglossum crispum*, *Begonia manicata*, *Rex Begonias* from seed; Mr. A. F. Bailey, The Gardens, Leopold Lodge, batch of *Primula stellata* in small pots; Mr. H. House, The Gardens, Oakfield, *Lachenalias* and *Narcissus cyclamineus*; Mr. E. S. Pigg, The Gardens, Samoa, Orchids; Mr. F. Fry, The Gardens, Greenlands, Alfriston and Newton Wonder Apples (splendid samples for the time of year); Mr. H. Wilson, The Gardens, Lower Redlands, *Begonia hydrocotylifolia*; Mr. W. Townsend, The Gardens, Sandhurst Lodge, blooms of *Begonia manicata*; and Mr. F. Bright, The Gardens, Whiteknights, some wonderfully grown *Lachenalia Nelsoni*. The former four exhibitors entered for the society's certificate of cultural merit, and the judge's awards were to Mr. F. Lever for his *Odontoglossum* and to Mr. F. Bailey for his beautiful batch of *Star Primulas*. A hearty vote of thanks was accorded to the lecturer and to the exhibitors. A warm discussion took place with regard to the electing of a lady gardener as an "ordinary" member of the association, but being put to the vote 90 per cent. voted in favour of the lady being elected as an ordinary member.

ROYAL HORTICULTURAL SOCIETY. ORCHID COMMITTEE.

Present: Messrs. Harry J. Veitch (chairman), J. G. Fowler, De B. Crawshaw, H. M. Pollett, H. Ballantine, A. Sander, W. H. Young, H. Little, F. Sander, J. Wilson Potter, T. W. Bond, E. Hill, N. F. Bilney, H. T. Pitt, Frank A. Rehder, James Douglas, Jeremiah Coleman, and H. J. Chapman.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, sent a group of Orchids, which included many splendid *Dendrobiums*, *Cattleya Trianae aurantiaca* (a fine flower), many excellent varieties of *Dendrobium wardianum*, *Laelio-Cattleya* Hon. Mrs. Astor, having a well-coloured lip; *Dendrobium roeblingianum* (D. Ruckeri × D. nobile), plants of D. nobile and D. n. Amesae, found growing wild together; D. rubens grandiflorum, *Angrecum citratum*, *Cattleya Schröderae* splendens, deliciously scented; and C. *Trianae fulgens*, a finely coloured flower. The *Dendrobies* were splendidly flowered, one plant of D. *wardianum* carrying no less than forty-two flowers. *Odontoglossum Hallo-harryanum*, a natural hybrid, was also shown by Messrs. Low. Silver Flora medal.

Messrs. James Veitch and Sons, Limited, Chelsea, arranged an extensive and representative group of Orchids. Included were *Laelio-Cattleya callistoglossa ignescens* (a beautiful hybrid between *Cattleya Warscewiczii* and *Laelia purpurata*), L.-C. *ignescens*, L.-C. *Clonia*, with soft mauve-coloured petals, lighter coloured sepals, and a crimson-purple lip; *Cypripedium Clymenae*, C. *Euryades*, L.-C. *Myra*, a flower of clear yellow, except for a slight tinge of red in the lip; it is the result of a cross between *Laelia flava* and *Cattleya Trianae*. There were several plants shown, all bearing different coloured flowers, although all were obtained from seed from the same cross. *Phalenopsis* Mrs. H. J. Veitch, a hybrid between P. *luddemaniae* and P. *Mannii*; *Dendrobium findlayianum*, *Epidendrum Clarissa*, and many other interesting plants were also included, notably *Cymbidium eburneo-louianum*. Messrs. Veitch were awarded a silver-gilt Flora medal.

Messrs. Paul and Son, the Old Nurseries, Cheshunt, showed a small group of the white variety of *Celogyne cristata* and C. c. *lemoniana*. Vote of thanks.

H. T. Pitt, Esq., Kosslyn, Stamford Hill, exhibited a group of Orchids, conspicuous among which were *Laelia harpophylla*, *Odontoglossum ruckerianum*, *Celogyne Sandere*, *Phaius Cooksonii*, several *Miltonias*, &c. Silver Flora medal.

Mr. James Cypher, Orchard grower, Cheltenham, showed a group of Orchids, which included several *Dendrobies* of very fine shades of colour. *Dendrobium nobile nobiliss* was splendidly represented, as were also D. *atro-violacea*, D. *splendissimum giganteum*, D. *Cybele*, and others. Silver Flora medal.

From Mrs. Haywood, Woodhatch Lodge, Reigate (gardener, Mr. C. J. Salter), came a small group of *Dendrobiums*, many of which were very fine indeed, such as D. *splendissimum rubens*, D. s. *pallens*, D. s. *purpureum*, D. *picturatum*, and D. *Edithae superba*. Silver Banksian medal.

R. G. Thwaites, Esq., Streatham, S.W. (gardener, Mr. J. M. Black), showed a small group of Orchids, comprising *Dendrobium Kenneth*, D. *chelfenhamense*, D. *Wiganie*, and several *Cattleyas* and *Odontoglossums*, all exceedingly well-flowered plants. Silver Banksian medal.

Jeremiah Colman, Esq., Gatton Park, Reigate (gardener, Mr. W. B. Bound), exhibited a collection of Orchids containing several very interesting plants. *Laelio-Cattleya* Captain Percy Scott (L. *elegans* grandiflora × C. *labiata flammea*), a flower of soft rose colouring, with a crimson velvety lip; *Laelia jongheana crispata*, bearing thirteen flowers; *Dendrobium nobile ballianum*, the lip of this being faint rose and sulphur-yellow; L. *anceps Stella*, L. a. *schröderiana*, &c. A silver Banksian medal was awarded.

M. H. Claes, Orchid importer, 55, Rue des Champs, Etterbeek, Brussels, exhibited a group of *Odontoglossums*, amongst which were O. *wilckeanum*, O. *nobilior*, O. *Adriane*, O. *ioochristyense*, and O. *etterbeckense*, a natural hybrid between O. *andersonianum* and O. *hunnewellianum*. Vote of thanks.

W. Thompson, Esq., Walton Grange, Staffordshire, sent *Dendrobium Stevens* var., *Odontoglossum andersonianum* var. *delicata*, O. *Adriane* var. *Lord Roberts*, and O. *excellens nobilior*, which were all splendidly grown plants and fine varieties also. Silver Flora medal.

Mr. Hardy, Tyntesfield, Ashton-on-Mersey (gardener, Mr. T. Stafford), exhibited *Dendrobium Cybele nobiliss*, *Cattleya Trianae*, &c.

Sir Trevor Lawrence, Bart., sent a small group of Orchids, in which was staged a lovely raceme of *Odontoglossum coronarium* var. *miniaturum*; *Odontoglossum ruckerianum*,

O. *andersonianum* Dorman var., and *Laelio-Cattleya Oysana*, a hybrid between L. *cinnabarina* and *Cattleya guttata Leopoldii*, were others. Vote of thanks.

A splendid plant of *Cymbidium eburneo-louianum* was shown by Captain Holford, Westonbirt, Tetbury (gardener, Mr. A. Chapman).

P. L. Hudson, Esq., Pampisford, Cambridge (gardener, Mr. T. Kirkpatrick), sent a plant of *Cattleya Trianae Bella*.

A botanical certificate was awarded to Sir Trevor Lawrence, Burford Lodge, Dorking (Orchid grower, Mr. W. H. White), for *Liparis tricallosa*.

FRUIT COMMITTEE.

Present: Messrs. George Bunyard (chairman), Henry Esling, George Kelf, J. Cheal, J. Willard, F. W. Bates, S. Mortimer, Alexander Dean, C. Herrin, E. Beckett, J. Wright, H. Markham, W. Poupart, James H. Veitch, W. Iggulden, A. Ward, G. Norman, F. Smith, F. T. Lane, A. H. Pearson, H. Somers Rivers, J. Jaques, and Rev. W. Wilks.

Messrs. James Veitch and Sons, Limited, Chelsea, arranged a magnificent collection of hardy fruit, consisting chiefly of Apples. The specimens were of fine colour, in very good condition, and of good size also. Lord Derby, Flower of Kent, Duke of Beaufort, Beauty of Kent, Newton Wonder, Golden Noble, Striped Beaufin, Melon Apple, Hornmead's Pearmain, Sandringham, Allington Pippin; Bellissime d'hiver, Catillac, Verulam, and Mariette de Milleepieds (Pears) are just a few of the best fruits. Such a display of hardy fruit as this is of great practical value, and should do much to convince those who are sceptical as to the possibilities of hardy fruit culture under ordinary conditions in Britain. A gold medal was deservedly awarded for this representative exhibit.

Mr. A. J. Thomas, Sittingbourne, exhibited a very good collection of Apples, comprising many splendid samples. Some particularly well represented were Royal Jubilee, Striped Beaufin, Chelmsford Wonder, Gloria Mundi, Annie Elizabeth, The Queen, Cox's Orange Pippin, and Stewart's Prince Arthur. A silver Knightian medal was awarded.

Messrs. James Veitch were given an award of merit for Apple Lamb Abbey Pearmain, an old, somewhat small, though valuable late keeping dessert variety of excellent flavour.

FLORAL COMMITTEE.

Present: Mr. W. Marshall (chairman), and Messrs. Charles E. Shea, H. B. May, R. Dean, W. P. Thomson, Rev. R. Wilson, C. J. Salter, Charles Jeffries, R. C. Notcutt, J. W. Barr, J. D. Pawle, Herbert J. Cutbush, E. H. Jenkins, William J. James, Charles Black, George Paul, George Nicholson, E. T. Cook, and John Jennings.

The meeting on this occasion was a very full one, and quite representative in character, yet in spite of this no award was made to any novelty coming before this committee. The groups staged, however, in many instances were of high merit.

Messrs. W. Paul and Son, Waltham Cross, showed a noble group of forced shrubs. Not only was this an extensive exhibit, but the quality of the material shown was in every way good. Here we noted such useful things as *Forsythia suspensa*, yellow with blossom; *Prunus triloba*, in the pink of condition, each plant carrying half-a-dozen sprays 2 feet long; *Magnolia stellata* and M. *conspicua*, the double-flowered Almonds, *Carnation-flowered Peach*, very showy; the fragrant *Staphylea*, single and double; *Keria japonica*, the pretty *Corylopsis paucifolia*, *Xanthoceras sorbifolia*; mention of these will give some idea of the variety contained in this beautiful display. Then in front were arranged a variety of Clematis in flower. A silver-gilt Flora medal was awarded.

Another group of forced plants came from Messrs. R. and G. Cutbush, Southgate. In this, the varieties of *Azalea mollis* were very beautiful. It is scarcely necessary to name all the kinds, which, indeed, were of the best throughout, but such as *Lutea major*, M. *Koster*, W. E. Gumbleton, Dr. Leon Vigne's (golden), Peter Koster (orange), and *Admirable* (rich orange), were among the best. Lilacs were in abundance, both single and double kinds, and bearing heavy trusses, while many others, as the *Guelder Rose*, *Laburnums*, &c. were placed as standards here and there. Silver Banksian medal.

Another exhibit, and this a most extensive one, was an array of Tulips in pots, from Messrs. William Cutbush and Sons, Highgate. Only single-flowered ones were shown, and here, too, the plants contained only the finest kinds. Of the Tulips alone an entire table was tiled, and the varieties, usually arranged in lines of four, or, perhaps, double lines of this number, were well set up to bring out the separate qualities of each. The exhibit was indeed a very fine one. Silver-gilt Banksian medal.

Messrs. Veitch and Sons, Chelsea, set up a pretty batch of *Cinerarias* called *Kew Blue*. These are of the *Polyantha* strain, and with some variation in colour, hence probably the name. The plants are certainly of a good compact habit, and in a large conservatory, drawing-room, corridor, or such like would prove a most striking feature. The plants were finely grown, and carried good heads of blossom. Messrs. Veitch likewise showed large plants of *Amygdalus davidiana alba*, the examples being from 7 feet to 8 feet high, and each twig loaded with the pretty white flowers. It is one of the earliest of open air shrubs to flower.

Messrs. Cannell and Sons, Swanley, also had *Cinerarias* that if their leafage could have been taken away would have given the appearance of some of the *Michaelmas Daisies* of early autumn; the white kinds and the palest blue shades especially favoured this view. Others, however, could not by any stretch of imagination be placed in this category, one called *Compacta*, for instance, being of red hue and a vigorous grower.

Messrs. Laing and Sons, Forest Hill, set up a charming group of small and serviceable table plants, in which *Acacias*, *Arums*, *Indian Azaleas*, *Begonias*, *Anthuriums*, small *Palms*, and bushes of *Azalea mollis* were the chief things.

From Canterbury, Mr. George Mount brought just a few of those *Roses* he grows so well, and, as usual, these were greatly admired. The blooms, too, cut with fine stems, were all one needs for the time of year, and the kinds

shown, as on former occasions, were Mrs. John Laing (pink), Captain Hayward (crimson), and La France, the last by no means the best forcing Rose for March anywhere near London; but while Mr. Mount does grow and flower these Roses so admirably, we may be pardoned if we say that we think he certainly does not improve his blooms, but very much the reverse when he resorts to the flower girl's notion of the streets and shops by laying back the petals of such a Rose as Captain Hayward as flat as a board. The variety is of such a fine cupped form that we can only look upon this bit of dressing as a thing quite unnecessary. Silver Banksian medal.

Another feature of the meeting was the handsome groups of Cyclamens, of which there were two, that from Mr. John May, St. Margarets, near Twickenham, being a superb lot of plants. Not only were the colours represented of the very finest order, they were very decided, and free from stain or marking of any kind. Where a rich crimson base existed it was clear and well defined, the pure white segments rising up above with rare substance. There were exceedingly pure whites, rose shades, and pink, and white with crimson base, very bold and striking, a really superb array that it was difficult to excel. It is impossible to describe the fine colours that charmed so many visitors on Tuesday last. Rich and superb in colour, the plants were excellently grown. Silver Flora medal.

The other group came from the Church Road Nursery Co., Hanwell, and here, too, the plants were very fine, the pure whites being beautiful with flowers of large size. There were, perhaps, about 100 plants in each lot, and the whites in this latter group constituted an important third, so to speak. Silver Banksian medal.

From Messrs. Paul and Son, Old Nurseries, Cheshunt, came some frilly-flowered pots of *Lachenalias*, such as *anrea chrysantha*, *Nelsoni*, and *lutea*, *Begonia fuchsoides*, more brilliant in colour than is usually seen, and the fine flowering *Cerasus J. H. Veitch*, a mass of bloom in pots.

Messrs. Peard and Sons, Lower Norwood, had a group of *Palms*, *Acacias*, *Azaleas*, *Staphyleas*, *Deutzia Lemoinei*, *Dendrobium nobile*, and other plants.

Then came the hardy things, always a most varied and interesting lot at this time of year. In this way Messrs. Ware, Feltham, had *Hepaticas* in charming variety, various *Saxifragas*, such as *burseriana* in quantity, the varieties of *oppositifolia*, of which *pyrenaica* is the best, *S. apiculata*, *S. sancta* being all noticeable in flower. *Megasea Stracheyi*, just well in truss, is also good. The exquisite *Soldanella alpina*, the pure white form of *Scilla bifolia*, *Iris stylosa alba*, *I. fimbriata*, and a few forced *Daffodils* in pots, Sir Watkin, Victoria, Queen of Spain, *Pallidus præcox*, and others. Silver Banksian medal.

Considerable interest, too, centred in a group from Messrs. Wallace, of Colchester, who set up a really fine lot of things, some of the best being *Frillaria pluriflora*, *Scilla sibirica alba*, very fine; *Iris persica*, *I. orchoides*, *I. tubergeniana*, a pretty novelty with yellow flowers; and *I. fauri*, a species very rare if not new, and which we may again refer to. *Puschkinia scilloides* was good, as also *Hepaticas*, *Winter Aconites*, *Iris stylosa*, *Muscarias*, &c. Silver Banksian medal.

Messrs. Jackman and Son, Woking, also had a nice assortment. Here the old double yellow Wallflower was seen, *Adonis amurensis*, *Narcissus cyclamineus major*, *Saxifraga burseriana*, *Chionodoxa Alleni*, *Cyclamen repandum*, *Androsace carnea*, very pretty; *A. pyrenaica*, &c. Tree Peonies in variety, and a fine lot of *Puschkinia libanotica* beautiful in full bloom.

Messrs. Barr and Sons, Covent Garden, had one of their pretty displays, of which the chief were some leading *Narcissus*, such as *Horstfieldi*, *obvallaris*, *ornatus*, *telamonius plenus*, Sir Watkin, Mr. Ware, a fine bicolor, and others. Then, too, we noted the pretty *Corbularias* in some three forms, the double form of *Narcissus cernuus*, *Iris persica*, *Heldreichi*, *I. reticulata*, *Chionodoxas*, and some finely-grown *Freecias*, *Leichtlini major*, and *refracta alba* being shown. There was also a nice lot of *Crocus* in several kinds, and several *Anemones* in flower.

Mr. Charles E. Shea had some well-grown plants of *Primula obconica*, the flowers of good size, and borne on long stems, while from Captain Holford came some half dozen sorts of *Hippeastrums*, chiefly light kinds, and from the Royal Gardens, Kew, that new hybrid *Primula kewensis*, which is a natural hybrid between *P. floribunda* and *P. verticillata*, the hybrid in many ways altogether surpassing the parents, not only in freedom, but in the obviously good habit. It is, indeed, a remarkable plant, perhaps the finest decorative plant in *Primulaceæ* that has seen the light since *P. sinensis* was introduced. Its value at present can scarcely be estimated.

There were also some pretty *Lachenalias* from Mr. A. Chandler, Haslemere, but the plants showed no improvement upon existing types.

PROFESSOR HENSLOW'S LECTURE.

Whatever may have been the expectation of the Fellows in relation to the hearing of Mr. Davison's promised paper on pergola climbers, with respect to which, because of that gentleman's illness, there was disappointment, in any case there was a good muster to hear one more of those charming sermons on plants with which Professor Henslow invariably gives, and which the reverend gentleman did so on this occasion literally at a moment's notice. After thirty new Fellows had been elected, with a well-furnished table of plants before him for illustration, Professor Henslow commenced with a reference to *Iris persica* as being the first plant figured in the *Botanical Magazine*, and yet which remained unaltered. How many plants had changed since their introduction here, the fine collections in the hall that day evidenced. The *Cyclamen* was referred to as illustrative of the remarkable development in certain flowers, and especially so were the most brilliant crimson seen in Mr. May's superb collection. *Daffodils* again show they had altered from their evident original—the wild variety. From that had come the diminutive *minimus* and *maximus*, and myriads of other beautiful varieties. Apparently against

elaborate breeding and culture there had been a sort of protest raised by *Cyclamen*, *Daffodils*, *Primulas*, and *Begonias*, in efforts made to produce fringed forms. This was evidenced, too, in some *Cyclamen* leaves, in which the fibro-vascular bundles had become attached, and fringed flowers seemed to be the product of similar features. Examples were often seen in the fasciation of *Asparagus* stems, also in *Cockscombs* and *Cabbage leaves*; indeed, in one case, an entire breadth of *Cabbage* had these vascular bundles on the leaves.

Professor Henslow then dealt with *Primulaceæ*, mentioning that most Himalayan and alpine species were mealy, and this excretion doubtless answered useful natural purposes. In Britain the only similar varieties were *P. scotica* and *P. farinosa*, the latter being chiefly found in Yorkshire. Types were, however, found in many climates even so far south as the Straits of Magellan, an example of which was shown. Alpine plants in this country often grew to greater height than they did on the Alps. There were some, however, which remained green, the cause of which was explained. Groups of forced shrubs and trees, especially of the wide *Prunus* family, were dealt with. Species of the genus were found abundantly all over the northern hemisphere. The progeny derived from original species was extensive. The *Damson*, *Apricot*, *Peach*, and *Almond* were all of the genus hailing from the East. *Peaches*, *Nectarines*, and *Almonds* were so far practically identical that seeds of one would often produce the other. The family gave us some of the earliest flowering and most beautiful of trees. The fruits of the common *Laurel*, one of the *Prunus* allies, were harmless, but the leaves are poisonous, although far less so than is the case in the south of Europe. Cases had been heard of cattle eating *Laurel* and dying. The lecturer's own experience when residing at Ealing was that his cows broke a fence to get at *Laurels*, and fairly ate up every leaf without suffering the least harm. The old *Kerria japonica* was introduced to show how it differed from the true single variety, which was also shown, and was a great novelty. He welcomed it as a sort of natural protest against the common tendency on the part of flowers to double, so many of which, lumpy *Dahlias* for instance, lost all grace and beauty when so evolved.

Professor Henslow thought the prevalent taste was strongly in favour of more single or natural flowers. The *Cineraria*, an example of the stellate type, being shown, was originally branching, and had flowers produced freely on long stems. These were elegant; but the florists' *Cinerarias*, even though having huge round flowers, were dwarf, dumpy, and devoid of grace. They needed the production of richer colours on these tall branching plants to have a charming strain. Some flowers of *Anagrum sesquipedale*, a beautiful white *Orchid*, with exceeding long spurs, were shown, and it was stated that it was long before the moth which had a trunk sufficiently long to probe these spurs was discovered, but entomologists were now familiar with it. The final illustration was found in forced plants of the purple *Broom*, *Cytisus purpureus*. Professor Henslow mentioned that once a Mr. Adam grafted this species on to the common *Laburnum*. The first shoot died, but one broke from the base of the union with the stock, and that produced, not only purple and yellow flowers, but brick-red ones also. Hence the variety now commonly known as *Cytisus Adami*.

THE KITCHEN GARDEN.

CAULIFLOWERS ALL THE YEAR ROUND.

WHILE this heading may seem rather presumptuous, it is not so impossible of accomplishment as would at first appear, for I propose to include with the Cauliflower the form of *Brassica oleracea*, generally known in gardens as *Broccoli*; but for this purpose they may well be treated under the more popular heading of Cauliflowers, the only designation known to the majority of persons outside a garden, for all *Broccoli* are Cauliflowers to most people. Having been tolerably successful in growing and maintaining a fairly continuous succession for the past few years, I will endeavour to give details of the practice that produced these results and the varieties used. The comparative mildness of recent winters has assisted greatly towards the results attained. A few days cold with 10° to 15° of frost, if some protection can be given, is not of sufficient duration to affect the supply for many days. In seasons, however, when weeks together are more or less severe, and 15° to 20° of frost frequently occur, it is scarcely possible to keep up a regular and constant supply, although much may be done where frames and pits can be had in which to replant those commencing to form heads. When mid-season and late varieties are killed off entirely, as sometimes happens in protracted winters, a break in the supply is unavoidable. This, however, is seldom the case where the partial lifting and "heeling over" is

practised in late autumn, a precaution that has often been advocated in the columns of THE GARDEN. At the present time, Cauliflower plants raised from seeds sown in August last, and that have been wintered in cold frames, will, if kept well exposed and hardened off, be soon in condition, with favourable weather, for planting out in a sheltered and well-manured quarter of the garden. Where seeds of the small heading varieties of the *Snowball* type were sown in January and potted off singly, these will be in a similar condition, and if planted out 18 inches apart on a warm border will produce capital little Cauliflowers before the autumn-raised plants that will follow closely.

When first planted out both should be protected with bell glasses or hand-lights if these are available, otherwise 6-inch pots may be used, and one may be inverted over each plant on cold nights or any time when the weather is unfavourable for the first few weeks after planting. From these Cauliflowers should be ready to cut early in June. For succession seeds should now be sown in boxes, using *Early London*, *Early Erfurt*, *Eclipse*, *Early Giant*, and *Autumn Giant*, to be pricked off in other boxes or on sheltered borders as soon as they are large enough to handle. Another sowing of the same varieties should also be made at the same time in the open ground. Towards the end of March or early in April the first general sowing of those to produce a supply through the succeeding autumn, winter, and intervening months to June must be made in an open position outside, in shallow drills 9 inches apart. The varieties for this purpose should comprise the following: *Veitch's Autumn Giant*, *Veitch's Self-Protecting Autumn*, *Sutton's Autumn-Protecting*, *Winter Mammoth*, *Snow's Winter White*, *Sutton's Superb Early White*, *Veitch's Main Crop*, *Leamington*, *Late Queen*, *Veitch's Model*, and *Methven's June*. *Leamington* is an exceedingly good and reliable main crop variety, and should be grown in quantity. This and the three last-mentioned latest varieties should also be sown in quantity about the middle of May, as from this sowing the plants will be more serviceable than earlier-sown ones, as it is not advisable to plant out early for the plants to become extra strong.

As the plants to be put out shortly will be for the production of heads in the middle of summer, the ground for their reception should be trenched two spits in depth at least, and a good dressing of decayed manure incorporated, more especially in the top spit. After the ground has settled the plants should be set out 18 inches apart in rows 2 feet wide, and if a shallow drill be drawn out to plant in it will afford a little protection. A quick growth being desirable, a slight dressing of sulphate of ammonia is beneficial when the plants are well established, to be watered in if the weather is dry. These plants will give a supply in June and July, and similar varieties, *Early London* and *Dwarf Erfurt*, sown now in boxes or outside will give a succession. To follow these will come on the early-sown *Eclipse*, *Early Giant*, and the well-known *Autumn Giant*. The first-named is an invaluable variety, turning in before the other two, and *Early Giant* is an early form of the *Autumn Giant*, with very close, well-formed heads. They should receive similar treatment and manuring as the foregoing, but be given a space of 2 feet 6 inches to 3 feet between the rows and from plant to plant. With these a good batch of *Veitch's Self-Protecting* and *Sutton's Autumn-Protecting*, two extremely useful varieties, should be planted to succeed the *Autumn Giant*. The latter will continue the supply till October or later, while the other two will carry on the supply to Christmas, and sometimes beyond.

All the latest plants to furnish heads from January to June should be given ample space for development, and the ground must be made firm but not rich. They must be planted direct from the seed bed to their permanent quarters. Those I have found satisfactory are *Winter Mammoth*, *Snow's Winter White*, *Superb Early White*, *Veitch's Main Crop*, *Leamington*, *Late Queen*, *Veitch's Model*, and *Methven's June*. The latest varieties have been somewhat improved of late years, and by a rigorous selection I have myself

saved seeds that produce good heads in June equal in texture to Autumn Giant Cauliflower. The most difficult and uncertain months in which to ensure a supply are those of December, January, and February. The method often adopted of carefully lifting, as soon as the smallest head is discernible, and planting them in cold pits or in batches outside close together that they may receive protection with bracken or other light straw material when frosty, answers well. I still advise the sowing of Cauliflower seed in August where means exist for the protection of the plants through the winter months, and prefer the January sowing of such small varieties as Early Forcing and others of the Snowball type to serve as a supplementary supply rather than to depend entirely upon them for the first summer Cauliflowers. As these can be grown to produce heads with tolerable certainty early in June they will be easily closely followed by the latest varieties of Broccoli, which without much difficulty may now be supplied to quite the middle of the same month.

C. HERRIN.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—The Editors intend to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITORS OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Names of fruit and plants.—T. Heywood.—*Dendrobium speciosum*.—T. S.—Kentish Pippin.—R. W.—Next week.

KITCHEN GARDEN.

Exhibition Peas (S. A. B.).—From a purely edible point of view, we do not care for large podded Peas, as the Peas in them usually run too large for our taste. But there are some Peas, such as Alderman, 6 feet, a grand show variety, Sharpe's Queen, Gladstone, Autocrat, and some others that never give broad, thick pods, but long, tapering, handsome ones, in which the Peas are thickly placed, and without being large are green, sweet, and of the highest flavour. Such Peas always are found in green pods, and most judges now give the preference to dark colour in pod and Pea as indicating excellence. A good show Pea should when filled contain from nine to ten Peas. The pod should also open freely in shelling, as when such is not the case much additional trouble is entailed on the sheller with these varieties. All the same, the ground should be prepared by deep trenching and ample manuring, and the seed should be quite thinly sown to give the plants ample room for roots and stems.

Cauliflowers damping (AMATEUR).—We have had much experience of the tendency on the part of small seedling Cauliflower plants to damp off when raised in the spring in a cool house or frame. Our practice so soon as evidence of such damping was seen was to withhold water and gently dust with sulphur. Damping is a form of fungoid attack, but it is only found where predisposing causes exist. Thus it is so very helpful when seed of the Snowball type is sown in pans or shallow boxes under glass to have just a little warmth to assist growth, as the seedlings then soon get out of the tender or infantile stage; but when well above the soil rather allow it to become dry than moist, as that helps to harden the stems, and when two or three rough leaves have developed then all danger is past, but even then water sparingly for a week longer. You may sow seed again at once, and with more light and warmth soon have strong young plants to put out into the open ground.

FLOWER GARDEN.

Massing scarlet flowers (S. E. C.).—We had hoped that the desire for big masses of rich-coloured flower beds in the summer was dying out, but evidently some persons still like them. Generally the most massive show is got from some zonal Pelargoniums, such as Vesuvius, George Potter, Brighton Gem, or Stella, but these plants often when much rain comes cease to flower well and become too leafy. Scarlet large-flowered single Begonias give a striking mass of colour in the late summer and the autumn. But the most perfect scarlet flower bedding plant we know of, especially when strong plants are put out thinly on a base of some silvery plant as a carpet, is the double Begonia La Fayette. This is a veritable garden gem for giving colour. Scarlet Verbenas also make a very dense body of colour and bloom for a long time.

Blue Salvias (S. T. G.).—You will have no difficulty in getting up a stock of these beautiful flowers if you will purchase a packet of seed from some reliable seedsman. Ask for *Salvia patens*. Once you have plants, the roots

being tuberous, like those of the Dahlia, can easily be preserved through the winter if lifted, partially dried, then stored in a cool place in dry ashes or sand till the spring. When they then start into growth, some of the shoots may be cut off and rooted as cuttings. The roots will also bear careful division then. There is no reason why in the autumn of each year you should not save some seed yourself. All depends on whether the flowers are visited by bees or other large insects, as it seems to be through their agency alone that flowers are fertilised. We have found, where several or many plants are grown, the insects are relatively far more numerous than they are when only one or two plants are grown. There is a white variety of *Salvia patens*, which is also very pleasing.

Planting dry place under window (F. F. Lawrence Park, New York).—(1) The dry place under the overhanging window could be planted with Stonecrops or *Opuntias*, as you suggest. If it were in the South of England we should probably plant the Sweet or Lemon-scented *Verbena* (*Aloysia citrifolia*) which, with occasional watering, does excellently in such a place with a little protection in winter, or you might plant some free climber, such as Japan Honeysuckle, outside and hang and train it over horizontal sticks or wire netting a few inches above the ground. Another good way of treating such a space is to pave or gravel it, and place pot or tub plants there for the summer; but this would, of course, entail watering. (2) For the space in the angle between porch and house wall you could not do better than plant *Guelder Rose* (*Viburnum Opulus*). If desired it can be partly trained against the house, and if it throws a flowering branch over the porch we think no one will complain. In England the double-flowered green-leaved *Kerria japonica* seems to be more hardy and free growing than the single, and is also a capital plant for such a place; or there may be room for both *Guelder Rose* and a *Kerria*, and they would make a pretty mixture.

Planting group of flower beds on lawn.—Bed 9.—A backbone of five tall Cannas, and twelve others on each side of lesser growth, planted opposite the spaces of the middle row. This will fill the bed. Beds 4 and 5.—In each four red-leaved Castor Oil (*Ricinus*) in the middle space, planted three in a triangle and one onward towards the point, with a filling of orange African Marigold. Beds 2 and 7.—Orange Zinnia, edged with yellow dwarf *Nasturtium*. Beds 1, 3, 6, and 8.—In each one *Nicotiana sylvestris*, edged with *Heliotrope* or purple *Verbena*. This would give the main planting with beds in a good harmony of warm colour, with a contrast in the four round beds at the angles.



ASTER HORIZONTALIS.

If a complete harmony is preferred, beds 1, 3, 6, and 8 could be all tall French Marigold. We do not advise the *Lantanas* in your case.

Aster horizontalis (M.).—This is a charming variety, with small pretty reddish flowers, and is very vigorous.

Iris stylosa (R. M.).—April is the best time to replant. No doubt the plants require dividing by now. They should be in rather poor soil, or they go too strongly to leaf. Your question about outdoor *Camellias* will be answered shortly.

Seed sowing (AMATEUR).—It is not possible to write a garden calendar that would suit everyone's case; but generally a proper calendar does, and if it fails to meet all, at least it has the special merit of giving often much-needed reminders that are very useful. No hard and fast rule with reference to seed sowing can be laid down. If a season be open and mild, seeds may be sown with safety earlier than if it be wet or cold, as it is most unusual to sow seeds when the soil is in an unfit state. Also, rules which apply to the south rarely apply to the north, where the season is usually from two to three weeks later. Study the garden calendar by all means, and then if you also study your garden conditions you can hardly go wrong. Of course you may sow many seeds under glass without consideration as to external conditions, especially if you have some warmth.

Old pot Hyacinths (JASON).—All ordinary spring bulbs are so cheap that it is hardly worth taking the trouble to plant out exhausted pot bulbs, but still you may do so if you wish. Do it so soon as the flowers are over and before the leaves wither, planting out the ball of soil from the pots without breaking them; but for outdoor purposes you must have the bulbs fully 2 inches under the soil. You must also mark with a label or piece of stick each spot where bulbs are planted, that they be not injured in any way. It is well to plant three of a colour in clumps. We have seen *Hyacinth* bulbs thus planted continuing to bloom each spring for many years, but it is well before planting to dig the soil deeply for them, and to add a little well-decayed manure and some sand. A few shillings spent on common bedding *Hyacinths* and planted in this way in the autumn are always well repaid.

Summer Stocks (CONSTANCE).—The terms ten-week and pyramidal applied to summer Stocks relate to form of growth or habit rather than to anything else. If you want Stocks to furnish you with plenty of nice cuttings, shoots, or branches, then grow giant ten-weeks, as these are capital for the purpose; they run from 18 inches to 24 inches in height, and are rather loose growing. The pyramidal Stocks are more dwarf and compact habited. Still these will later in the season throw out side shoots that are good for cuttings also. There is in these sections no appreciable difference as

to doubleness of flowers. The strains are largely of continental growth, and the growers produce them chiefly in pots, as that mode of culture seems to tend to the production of the greater percentage of double flowers. Certainly it is best to sow the seed under glass, if even in a cold frame or greenhouse, putting the plants out where to bloom when they are 4 inches in height; but we have found plants to do well and flower freely, though late, if sown in the open ground.

Lonicera Standishii (EVE).—Both this and *L. fragrantissima* will flower better for rather close pruning after they have made their summer growth, whether on a wall or in the open. If on a wall, they should be fastened in rather closely. Fir boughs are a better covering than a mat, as they allow air to circulate and do not confine the damp; but in a rather long and fairly severe frost, such as we have had lately, the flowers that would have been on the bushes would be likely to be injured.

FRUIT GARDEN.

Manuring Vine border (W. R.).—You would do your Vines service that have their roots in an outside border if you would lay over the border a thin coating of short fresh stable droppings at once, as the food in such would wash in and help to stimulate root action. The dressing, however, should not exceed 2 inches in thickness, so as not to exclude the warmth from the sun's rays, which is now so needful to help warm the soil; but after good growth has been made on the Vine, just very lightly—that is, but 3 inches deep—point in the manure with a fork, then, early in July, give a second dressing of animal manure rather thicker than was the first one. If before adding this dressing you would give a dressing of soot that would do much good also. No doubt a dressing of superphosphate or bone flour, 3 ounces to the square yard, given now would be very helpful also.

MISCELLANEOUS.

Cropping a garden (G. W. KENT).—Dealing with your last question first, do not pinch out the points of your *Chrysanthemum* tips when you make cuttings of them. They should not exceed from 3 inches to 4 inches in length. As to cropping your garden, keep the stiffer ground for Broad Beans, Runners, Parsnips, late Potatoes, and autumn Giant Cauliflowers, each to be sown and planted in due season—Broad Beans and Parsnips now, the others later. On the higher portions, where the soil is dryer, sow early Peas, such as W. Hurst, Chelsea Gem, Prince of Wales,

and Senator to come on in succession; and plant Ashleaf Kidney, Beauty of Hebron, or Puritan Potatoes. For a main crop Potato to cover other of the ground plant Windsor Castle and Challenger. You may also sow at once both Nantes and Marmaduke Carrot seed, Turnip-rooted Beet, any ordinary Globe or Spanish Onion, Early Milan Turnip, Radish,

Lettuce, White and Red Cabbage, Brussels Sprouts, and other hardy winter green seeds, in small patches. Sow top-rooting Beets a month later; get Cabbage plants and put out on medium soil. It is not possible to indicate the exact best positions for each crop; so much depends on the condition of the soil, and that should have been worked deep. If it be only shallow dug, then no description of crop will long hold out in hot, dry weather, especially as your ground lies on a slope to the south and you cannot water. Crop rotation comes quite naturally, for if you sow or plant crops now, you will find Winter Greens, Cauliflower, Broccoli, Brussels Sprouts, Spinach, Turnips, Celery, autumn Onions, and many other things will follow as crops in due course, and thus keep the ground well employed. Still your manuring is not of the best. Do not apply nitrate of soda until crops have made some growth, then sprinkle it on and hoe it well in.

Wood ashes as manure (ARGUS).—You may apply wood ashes to garden soil at any time. It is a useful potash manure, and becomes soluble slowly. It is a common rule to apply at the rate of a bushel per 2 rods of ground when it is dug to receive any crop. For Vine or Peach borders it may be applied far more liberally. As to a lime dressing it is best when ground is vacant to apply that in the winter. We prefer to put down a bushel of fresh or unslaked lime in heaps to every 2 rods of ground and to thinly cover each heap with soil. It soon slakes, then it should, with the soil, be equally spread about and dug in. Dustings of slaked lime are useful in the spring to kill slugs, and soon after may be hoed in amongst the crops.

JOURNALS, &C., RECEIVED.

American Journal of Science. United States Department of Agriculture. *Circular on Grass and Forage Plant Investigation.* The Gardeners Magazine of India. *Bulletin de la Société Néerlandaise d'Horticulture.* *Bulletin de la Société Française des Rosicristes.* Report of Agricultural Experiment Station of the University of California. *Transactions of the English Arboricultural Society.* *Bulletin de la Société Nationale d'Acclimatation de France.* *Nature Study Bulletin, University of California.*

CATALOGUES RECEIVED.

Trees and Shrubs, Alpine and Perennial Plants.—Mr. T. Smith, Daisy Hill Nursery, Newry.
Hardy Border Plants, &c.—Mr. Amos Perry, Winchmore Hill, N.
Flower Seeds.—Louis Vieweg, Quedlinburg, Prussia.

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SIMPLE USE OF BEDDING PLANTS.

VERY soon the time will be at hand for flower gardeners to look over their stocks of bedding material and consider what will make desirable combinations. In the case of the important parterres there is usually some general scheme that is more or less held to from year to year, and this is, of course, the wisest plan, for in such a case the gardener knows what to prepare. It is much better to have one settled scheme such as best suits the bedded space itself, and in the best way accords with its environment, than to hunt about from year to year for a variation for variety's sake only.

More than half the bedded gardens are spoilt by the use of too many colours in one scheme. If variety in the treatment of the garden is really desired, let it be an intelligent variety, and not the mere muddle that is so common and so disastrous to good effect. A thoughtful and intelligent variation in a settled scheme can no doubt be arranged, or, better still, two or three well-thought-out schemes in different ranges of colouring, subject only to slight alteration. Thus, there might be a red scheme, a yellow scheme, and one of purple and white. The main material for the red scheme would be Cannas, Gladiolus, Geranium, Fuchsia, Begonia, Verbena, Lobelia cardinalis, and Phlox Drummondii; of the yellow and orange, Calceolaria, Yellow Plume, Celosia, Zinnia, Yellow Canna, Tagetes of many kinds, Yellow Paris Daisy, and Nasturtium; of the purple and white, Clematis, Verbena, White Petunia, Heliotrope, Ageratum, China Aster, Ostrich Feather, Nicotiana sylvestris and *N. affinis*, Bouvardia Humboldtii, White Paris Daisy, Solanum Warszewiczii, Cineraria maritima, and Centaurea candidissima. Any other material of the right colour could be worked into either of these schemes.

The great thing in this as in all other gardening is to work to some definite plan or intention. If a gardener, as often happens when he takes up a new situation in the winter or spring, is confronted with a quantity of various bedding-stuff, he had better try in his first year for the very simplest arrangements, supplementing them where he foresees a deficit with some of the many grand half-hardy annuals named above, which are in any case among the best plants for summer bedding. There are sure to be many by-places, and,

perhaps, a large mixed border, where he can use to the best advantage much of the remainder of the material prepared by his predecessor, or by a clever arrangement he could plant it perhaps in some important kitchen garden border so that it would make a fine show of itself. Thus he would not only use it to advantage, but would avoid spoiling the parterre by crowding into it a quantity of irrelevant material simply because he had got it and it must be put somewhere.

STRUGGLES IN SMOKE.

It was with sad eyes that we first beheld the scene of conflict, fresh as we were from the Roses and Carnations of the South. Could anything ever be expected to grow in that smoky strip of ground except the black-stemmed Elder and Lilac bushes which were straggling untidily over it? Everything one touched was black, and how strong it all smelt of smoke and the mingled fumes of fried fish and burnt shoe leather from the small shops that backed on to it! The garden was in the North of England, close under cathedral towers, at the very edge of a wind-swept hill, the ground falling away so suddenly below it that the tops of the chimneys of the city beneath were just at the proper level to pour their smoke right into it.

When the wind blew from the south the thick clouds of smoke from the foundry and factory chimneys made it impossible to see across the garden. Then we had to set to work. The Elders soon became a thing of the past, the Lilacs were cut back, and cartfuls of manure arrived. But many a tragedy had to be enacted in the death of seeds and plants before we discovered what kind of vegetation would condescend to put up with the little we had to offer, for the chief bed was a high bank facing north and the other a narrow one under the house and south walls, from which creepers sucked up all the nourishment. The soil, too, was wretched, principally consisting of soot and dust and lying very close to the rock. But there were some flowers—and how grateful we were to them—who not only made the best of these circumstances, but seemed to revel in their surroundings. Of these Tiger Lilies were those that seemed to love us best. They grew and they spread and they triumphed, till at times the garden glowed with an orange glory. Their cousins the White Lilies would have nothing to do with us, although *Lilium auratum* was often magnificent. Naturally, bulbs were the most satisfactory things, and Crocus, Narcissus, and Tulip times were joyful, but soot-covered Snowdrops were not inspiring. We felt rich when the Lilies of the Valley were in bloom, and we could afford to give quite large bunches away; and we revelled in the carpets of Woodruff and White Periwinkle, from which sprang great clumps of the yellow Trollius and the silvery stars of *Astrantia*. Auriculas, Double Daisies, Violas, and Pansies did their best to make up to us for the lack of Violets and Mignonette.

The common Primrose seeded itself about, but its flowers were microscopic, and showed off the smut too plainly. A great deal of solid satis-

faction was got out of Christmas Rose. The twelve clumps always did well, and, the texture of their petals being thick, it responded to the vigorous soap and water scrubbing they required before appearing indoors. Few bedding plants really answered. Geraniums always went to leaf, but the wild *Geraniums pratense* and *sanguineum* were a great success. Various Irises, and later on Campanulas, Monkshood, Canterbury Bells, Geums, Lychnis, and masses of *Epilobium angustifolium* made things bright. Delphiniums were comically dwarf in habit.

A small plant of the giant *Heracleum* was one spring introduced into the place, and soon became a presence that made itself felt not only with us but throughout the city, so rapidly did it increase by seed. As no English garden is worthy of the name unless it produces Roses, we were thankful to possess three bushes of the sweetest scented of them all, the old pink Cabbage Rose. White Cluster Roses flowered well on the walls, and Gloire de Dijon, too, but the latter was very scrubby about the leaves. The most troublesome weeds were Chickweed and a horrid little wild Balsam (*Impatiens parviflora*), which seeded itself everywhere; one year *Claytonia perfoliata* suddenly appeared and remained to settle. But in the south border we had also to contend with Marigolds. Oh! those Marigolds, nothing would stop their growing, not even pulling them up and throwing them into the rubbish heap. They quickly adapted themselves to their new surroundings, twisted themselves up to the light, and continued to flower. They, with Larkspurs and Cornflowers, managed to get that south bed all to themselves, in spite of all we could do, and were riotously happy.

Next to the smoke our worst enemies were cats. By common consent the place became the approved reception room for their nightly revels. They swarmed from the surrounding cottages to fight round the plants by night and curl themselves up in them to sleep by day. Then peacocks came to the neighbourhood. Peacocks with roving instincts, lovers of other people's gardens, with no fear of brandished pitchforks, making one's soul shudder as they trampled down some tender seedling with their heavy claws, pecking off neatly each flower that lay in their path. The gardener, too, who occasionally visited the garden to train creepers was something of an enemy, for shears in hand on the top of a high ladder he could do much mischief, notwithstanding injunctions to the contrary and incessant sentry duty at the foot of the ladder. In spite of him both yellow and white Jasmines have been glorious these last summers. The latter is the large kind, with crimson backs to the petals. The outhouse roof has been like snow with it. Large bowlful decorated the drawing-room, and it was given away in quantities. Perhaps the greatest triumph the garden received was the year the Major Convolvulus were so wonderful, climbing high up the wall and hanging in festoons over the iron railings of the steep flight of steps leading out from the house. Nobody was able to enjoy breakfast before they had done honour to the Morning Glories, and one guest happened fortunately to be a poet, so their charms were immortalised in a beautiful poem.

Another triumph was the fruiting of the Almond tree. To eat our own green Almonds was a great joy. The happy autumn when the small

Pear tree rewarded us with a heavy crop of fruit is nice to think of, and how one of its Pears was such an enormous size that it required a dish all to itself, and graced a dinner party of twenty-four people, each of whom was allowed to taste a small piece of its perfections.

How we loved and toiled in that smoky little garden, and how its inmates returned our love, for when the time came for us to leave it the greater number of them refused to live there without us, choosing rather to die straight off. The past winter had been an unusually severe one, so that also may have had something to do with it.

W. J. V.

EDITORS' TABLE.

As flowers will soon be coming on in private gardens and nurseries, we wish to remind our readers that we shall be glad to receive any flowers that may be of interest, either for their own merit or from not being quite common.—Eds.

CHINESE PRIMULAS FROM FOREST HILL.

Messrs. John Laing and Sons, Forest Hill Nurseries, S.E., have sent to us some blooms of their well-known strains of Primulas, remarkable both for their form and colouring. The stellata hybrids comprise shapely flowers, varying in colour from pure white to crimson. Laing's Gigantic Red, White, and Rose are splendid flowers of their class, as are also the double flowers in crimson, pink, salmon, and other colours.

SEED OF CAPE SILVER-TREE.

A correspondent ("R. L.") sends a seed of the Cape Silver-tree (*Leucadendron argenteum*) to show the pretty quadruple feathery appendage. A note accompanying it says: "It might interest your correspondent, 'A. M.,' who enquired about the Cape Silver-tree, to hear that I succeeded in growing a little plant of it from a seed brought to me by a friend from the Cape. I planted it in sandy loam last November and placed it in my cool greenhouse, where it grew into a little bushy plant, when unluckily a white grub attacked its

roots and killed it. The leaves were covered with silvery down, with a speck of bright scarlet at the tip of each."

NEW AND RARE PLANTS.

ODONTOGLOSSUM CRISPUM QUEEN EMPRESS.

THIS splendid variety of *O. crispum* has large flowers of fine symmetry, the sepals are deep blush pink, the white notched petals being delicately marked and veined with the same colour. Ten flowers were on the raceme exhibited by W. Thompson, Esq., Walton Grange, Staffordshire (gardener, Mr. W. Stevens). First-class certificate.

CYPRIPEDIUM ERNESTO.

A FLOWER of fine colouring. The dorsal sepal, except for a fairly broad margin of white, is a bright chocolate-brown; between the white and the predominating colour is a band of pale purple. The petals and the lip are almost of the same colour as the dorsal sepal. Exhibited by F. A. Rebder, Esq., Gipsy Hill (gardener, Mr. J. Norris). Award of merit.

LÆLIO-CATTLEYA VACUNA.

THIS is a dainty flower of a distinct and pleasing colour; the sepals and petals are pale yellow and the lip a deep crimson. This hybrid was obtained between *Cattleya guttata* and *Lælia cinnabarina*. Exhibited by Messrs. J. Veitch and Sons, Limited, Chelsea. Award of merit.

CYPRIPEDIUM LORD DERBY (SANDER'S VARIETY).

THIS new *Cypripedium* was obtained from *C. rothschildianum* × *C. superbiens*. The flowers are very large, the dorsal sepal beautifully lined with purple-brown upon a ground colour of green, the petals spotted with purple-brown also; the

lip is of a dull red colour. The extremely handsome foliage of this *Cypripede* adds considerably to its value and attractiveness. The leaves are large, of a good deep green, nicely mottled with darker green. Exhibited by Messrs. F. Sander and Co., St. Albans. First-class certificate.

DENDROBIUM AINSWORTHII EDITHÆ VAR. SUPERBA.

ANOTHER worthy addition to the *Dendrobiums*. The flowers of this one are large, of loose habit, and finely coloured. The petals, sepals, and lip are edged with deep rose-purple, the predominating colour being of a paler shade; the lip is of a soft, velvety crimson. *D. aureum* and *D. n. nobiliss* were the parents of this novelty. Exhibited by Mrs. Haywood, Woodhatch Lodge, Reigate (gardener, Mr. C. J. Salter). Award of merit.

PRIMULA KEWENSIS.

A GROUP of this new hybrid *Primula* in No. 4 greenhouse at Kew shows well what a beautiful flower it is, and one that will doubtless before long be universally grown in gardens; its golden blossoms are very distinct from those of most of the occupants of the same structure. It furnishes another illustration of the fact that sometimes hybrids may be obtained of a more robust constitution than either of their parents, for neither the Himalayan *P. floribunda* nor the Arabian *P. verticillata*, from which *P. kewensis* has been obtained, can equal it in vigour. It belongs to the whorled section of *Primulas*, that is to say, as the stems lengthen, whorl after whorl of flowers develop, so that its season of blooming extends over a lengthened period. There is also the possibility that with this break away hybrids between this section of *Primulas* and the forms of *P. sinensis* may some day become an accomplished fact. *Primula kewensis* received a first-class certificate from the floral committee of the Royal Horticultural Society last spring, when it was greatly admired, and now the experience of another season has shown that the certificate was worthily bestowed, for it has this year made many friends, both at Kew and when exhibited at the Drill Hall on the 12th inst.

DENDROBIUM ROEBLINGIANUM.

THIS is a distinct and pretty addition to the hybrid *Dendrobiums*. It was raised in Messrs. Pitcher and Manda's nursery, Short Hills, New Jersey, U.S.A., from the intercrossing of *D. nobile* and *D. Ruckeri*, a species from the Philippines, which was fairly plentiful some years ago, but seems to have become almost extinct. The hybrid first flowered in 1893. Some of the plants have since been distributed in this country. The plant was exhibited by Mr. R. G. Thwaites, Chessington, Christchurch Road, Streatham, on the 12th inst., and received an award of merit from the Orchid committee of the Royal Horticultural Society. The flowers are $1\frac{1}{2}$ inches in diameter, the sepals rather longer than the petals, white at the base, suffused with light rose on the upper halves, slightly incurved, whilst the petals are white, tipped with rose, the lip reflexed in front white, becoming suffused with yellow around the disc. The latter is white, lined with rosy purple at the sides, the centre suffused with brownish purple, covered with white downy hairs. At the back of the disc there is an area of white. It should prove a useful plant for hybridisation.—H. J. CHAPMAN.

IRIS TUBERGENIANA.

THIS is a most interesting species of the *I. orchoides* section, with greenish yellow flowers and a dark spot as the blade is approached. The leafage is good and distinct, the blades ovate and also acuminate at the tip, while the margin is strongly lined with silver. A beautiful pan of it was recently shown by Miss Willmott at a meeting of the Royal Horticultural Society, and given an award of merit. Messrs. Wallace and Co. exhibited



THE NEW HYBRID PRIMULA (*P. KEWENSIS*) NOW IN FLOWER AT KEW.



IRIS TUBERGENIANA.

(Shown by Messrs. Wallace and Co. at the last meeting of the Royal Horticultural Society.)

at the last meeting, and our illustration represents one of the best plants in their group.

*All the above were exhibited at a meeting of the Royal Horticultural Society, at the Drill Hall, Westminster, on the 12th inst.

NOTES OF THE WEEK.

The single Jew's Mallow.—This, the typical *Kerria japonica*, is, as mentioned by "H. E. M." (page 125), far less common than the double form. Still, though not common, it is to be found in other places besides Kew and nursery gardens, and I know of specimens in gardens in my own particular neighbourhood. *Kerria japonica* flore-pleno is a general favourite with cottagers, and not without reason, for it produces its bright orange flowers in great profusion and is an almost continuous bloomer, flowering in mild seasons in the south-west as late as December, while its earliest flowers are even now expanded, as are the first blooms of the type, whose single blossoms are far more acceptable to the artistic eye than the double flowers of the popular favourite. While writing of the *Kerrias*, mention may be made of the beautiful *Rhodotypos kerrioides*, sometimes known as the white *Kerria*, whose large, single white flowers are particularly attractive in the month of April.—S. W. FITZ-HERBERT.

Daphne odora.—I notice that "W. D." on page 143 speaks of this *Daphne* as being synonymous with *D. indica*. In Nicholson's "Dictionary of Gardening" the two are given as distinct, the dates of introduction being *D. odora* 1771 and *D. indica* 1800. If they are one and the same plant, I think *D. indica* is the more general appellation. In the south-west, the so-called *D. indica* is sometimes successfully grown in the open, a purplish crimson form being the most common. This colour is not alluded to by "W. D.," but it is probably the *D. odora* of Nicholson, the colour of which is given as purple. I know of a large plant

of this, some feet in height, whose blossoms scented the garden in which it grew in the month of January, and I have also met with the white, pink tinged (mentioned by "W. D." as the type), the pure white, and the variegated forms growing in the open.—S. W. F.

Iris reticulata major.—Mr. E. H. Jenkins's note (page 178), on the form of *Iris reticulata*, known as Major, raises a question that has before been ventilated in these columns, namely, whether any distinct Major variety exists? That considerable variation in size is exhibited by the type will be admitted by those who have grown or have had opportunities of inspecting these flowers in quantity. Mr. Jenkins writes that he knows three grades of typical *Iris reticulata* that may be styled minor, major, and maxima. A year ago I wrote: "Certainly flowers of the form designated major are no larger than those of many bulbs held to be merely typical, though some of the latter produce flowers of such small size as to well merit the distinctive appellation of minor." This expression of opinion was subsequently criticised, and it was suggested that my failure to appreciate the increase in size exhibited by the Major variety was due to unfamiliarity with that form. At that time my impression was unsupported by proof, but this year I have compared flowers from bulbs procured two seasons ago as *Iris reticulata* major with those of a fine form of the type which has flourished in a garden that I know of for many years, with the result that the blossoms of the latter proved to be equal in size to those of the Major variety. It is, of course, possible

that the type was sent instead of the Major variety when the latter was ordered, but, supposing the consignment to have been true to name, the flowers showed no increase in size over those of bulbs that had no pretensions to be anything more than the type. My present presumption, based upon such evidence as I have been able to gather, is that certain forms of the typical *Iris reticulata* bear flowers as large as those of the variety styled Major, though it is quite possible that I may not have hitherto met with exceptionally fine examples of the latter, and I therefore most thoroughly concur with Mr. E. H. Jenkins's expressed wish that some authoritative statement should be made as to the raising and introduction of this variety. I may mention that among the numbers I have found growing wild in their native habitat none deserved any other epithet than minor, being far inferior in size to the blossoms referred to as borne by certain forms of the type.—S. W. F.

Weed-killers and "live" edgings.

—Every tiller of the soil recognises the necessity for the destruction of weeds upon those portions of the garden that are cropped with either fruits, vegetables, or flowers, as the more weeds there are the poorer in proportion will be the several legitimate products of the land. Their extirpation in these cases is effected by hoeing or hand-weeding, as may be considered the better system. On hard, gravel walks, however, where hoeing, except on rare occasions, is impossible and hand-weeding is a slow and laborious practice, the destruction of weeds becomes more difficult. The general appearance demands their removal, and the readiest means is by the aid of weed-killers. These are always procurable in barrels, but there is, to my mind, a distinct disadvantage in this plan, as the greater the quantity procured the longer it will last, and the chances of mishap are considerably increased. For this reason I would suggest the purchase of compounded weed-killers in limited quantities; sufficient, in fact, for immediate use. Thus danger from storage is obviated. It involves slightly increased cost and a little more trouble,

but these are easily balanced by the absolute peace of mind that is ensured. I have found, however, that economy and satisfaction invariably accrue from the use of home-made mixture, and personal experience and the observation of the work of others prove that sulphuric acid (oil of vitriol), at the rate of one gallon to twenty gallons of water, soft if possible, is the most efficacious. The twenty-one gallons are sufficient to dress 100 square yards of walk surface, which will be brightened by the application, and will, as a rule, remain clean throughout the entire season. The sulphuric acid is procurable in any quantities, and in bulk is obtainable from any gasworks for about 10s. per carboy of ten gallons. The surface for dressing is first measured, and then the requisite amount is procured, diluted, and applied. Needless to say, gloves must be worn and the solution kept from clothes and boots or disaster will certainly ensue. The greatest difficulty that has presented itself lies in the preservation of "live" edgings. These are present in practically all gardens, and the exercise of even the utmost care does not always ensure absolute safety. Of course, it will be said that too much is applied, but this I should doubt, and rather ascribe the trouble to the inevitable accident. It is most regrettable to have patches of dead Box in what is otherwise a perfect edging, and I would like to ask readers of THE GARDEN if they can recommend any mixture which, while killing the weeds, will leave the Box or other plant unscathed, even under actual contact?—H. J. WRIGHT.

Special prizes for Daffodils.—At the Royal Horticultural Society's meeting to be held on April 9 in the Drill Hall, Buckingham Gate, special prizes will be offered for Daffodils, open to amateurs and gentlemen's gardeners only. First prize, a £7 7s. silver cup, presented to the society by Messrs. Barr and Sons; second prize, Royal Horticultural Society silver Flora medal. The exhibit must be a group of Daffodil blossoms (*Polyanthus* varieties excluded), including some of each section, Magni, Medii, and Parvi-Coronati, and must contain at least fifty varieties distinct, of thirty of which at least three blooms each must be shown. Not more than nine blooms of any one variety may be put up. To be staged in bottles, vases, or tubes not exceeding 3 inches in diameter at the top (inside measurement), and all the stems must touch the water. Quality of flower will count more than quantity, and correct naming and tasteful arrangement will be duly considered. Any foliage may be used, Daffodil or otherwise. No prize will be awarded unless there are two competitors at least.

Proposed National Sweet Pea Society.—Under the chairmanship of Mr. George Gordon, V.M.H., the executive committee of the Sweet Pea Bicentenary celebration held a meeting at the Hotel Windsor on Tuesday afternoon. The publication of the complete report was first dealt with, and tenders having been received and discussed, that of Mr. W. Etherington, Central Printing Works, Wandsworth, was accepted. The work will be put in hand immediately. The question as to the desirability of forming a National Sweet Pea Society was unanimously decided in the affirmative. A deputation from the meeting held at Winchester House last week was received with a view to collaboration, and the promoters were invited to attend a public meeting to be held on Tuesday next, at 2.30 p.m., at the Hotel Windsor, Victoria Street, when the matter will be fully discussed and a society duly constituted. The promoters of the City meeting decided to abandon their scheme in favour of that of the committee, who trust that the meeting will be a thoroughly representative one.

Royal Horticultural Society.—At a general meeting of the Royal Horticultural Society held on Tuesday, the 12th inst., thirty-two new Fellows were elected—making a total of two hundred since the beginning of the present year—amongst them being the Duchess of Somerset, Viscountess Baring, Sir William Preece, K.C.B., F.R.S., Lady Hylton, Hon. H. A. Lawrence, and Surgeon-Major Caldwell, M.D.

Campanula balchiniana.—This beautiful variegated hybrid appears to be but little known, and apparently it is not nearly so well appreciated as its merits demand. I have at the present time a plant growing in a pot in a cold house, the soil about which has been frozen hard on several occasions, but it has come unharmed through them all, and now, in a position in which it has plenty of light and such sunshine as has been sparingly afforded of late, the silvery variegation is perfect and delightful, with dashes of pink colour at the points of the shoots. I am growing it in rich soil; I think we are too apt to starve our Campanulas of this type when grown in pots.—R. DEAN.

Victoria Medal of Honour in Horticulture.—The Victoria Medal of Honour in Horticulture was established in the year 1897 with the assent of Her Most Gracious Majesty the late Queen Victoria, in commemoration of the Golden Jubilee of her reign, and the limit of sixty Victoria medallists at any one time was fixed to record that event. It has now seemed good to the president and council to issue a minute and order of council that the number of Victoria medallists shall be increased to sixty-three as a record for all years to come of the sixty-three years of her late Majesty's glorious reign, and that such number should never hereafter be added to or increased. There having been one vacancy in the original number at the time of Her Majesty's death, the president and council, acting on the above minute and order have made the following appointments to the list of Victoria medallists, viz.: Miss Eleanor A. Ormerod, LL.D., &c.; Sir George King, K.C.E.L., M.B., F.R.H.S., F.L.S., &c.; Mr. George Norman, F.R.H.S.; and Mr. James Sweet, F.R.H.S.

Notes on Eucharis culture.—*Eucharis amazonica* is one of those few plants that either thrive wonderfully well or will not succeed at all. With one person it may grow almost as a weed, while his neighbour cannot by any means persuade it to grow satisfactorily. I think that an unhealthy stock of bulbs in the first place often has much to do with this, and I am also of opinion that a very high temperature is not altogether beneficial. Some of the best plants of *Eucharis amazonica* that I remember to have seen were in the nursery of Mr. Robert Featherstone, Kirkstall, Leeds. They were in 10-inch and 12-inch pots, and the very picture of vigorous health, yet the house in which they were growing—just a low span-roof such as is common in nurseries—was by no means of a stove temperature. The latter was that usually associated with the term intermediate house, where the night temperature would be 60° or 65°. In addition to the moderate heat, Mr. Featherstone attributes his success in the cultivation of this somewhat capricious plant to perfect drainage, a rough sandy soil, very careful watering, and when the plants are established the judicious use of stimulants. When the pots are well filled with roots the plants never receive really clear water, for a certain amount of Standen's or Clay's Fertilizer is dissolved in the water of the tanks. A regular and mild stimulant is thus daily supplied. That the plants appreciate this is well evidenced by the number of flowers they produce, and the vigour and substance of them. Not only once a year but several times do they bear their valuable blossom. A short time ago in one of our best known gardens I noticed *Eucharis amazonica* growing under most peculiar conditions, and which I think is worth recording. These particular plants were planted out underneath the stage of a hot house; a small brick wall had been built alongside the pathway in order to support a small bed of soil. Needless to say, the latter must be thoroughly well drained, and the soil be composed of rough pieces of turf and peat, with plenty of sand incorporated. The plants are placed as near to the wall as possible, so that they have all the light available; many of the leaves, however, are still completely underneath the stage. Much doubt was expressed at the time of planting as to whether there was much probability of success attending this experiment, but as the *Eucharis* have been in their present quarters for more than

a year, and have grown and are now flowering well, they may be said to have proved perfectly satisfactory. The leaves have kept a beautiful dark green, thus proving how necessary is a shady position to the well-being of these plants. If *Eucharis* can be grown in this usually wasted part of a hot house, and there now seems no reason to doubt it, such a practice is worth extending, for, in addition to utilising valuable space, a gathering of choice and valuable flowers may be had. One would think that the drip from plants on the stage above would have caused the soil underneath to become sour and water-logged, but ample drainage being provided and careful watering practised such does not seem to be the case. The close proximity of the hot-water pipes, which are under the stage, no doubt helps considerably to keep the soil in a wholesome condition. If the *Eucharis* will succeed under what one would, I think, rightly term adverse conditions, there are doubtless other plants that would do the same; in fact, in the garden above mentioned, *Clivia miniata* has recently been planted in a similar position, and will, so far as one can at present judge, do equally as well as *Eucharis amazonica* has done.—T. W.

Rhododendron grande.—This *Rhododendron* is one of the first to flower of all the species natives of the Himalayan region. It cannot be recommended for small houses, being of quite tree-like habit, but where space exists for its development there is no finer species than this. The plant is stout and sturdy, and the ascending branches comparatively few in number, hence there is ample space for the development of the massive leaves, which render a well-grown specimen of this species a striking object even when out of bloom. These leaves, which are arranged principally in a whorl-like manner towards the points of the shoots, are 1 foot or more in length, dark green on the upper surface, and silvery underneath. This latter feature has led to the specific name of *argenteum* being bestowed upon it; indeed, it is used quite as frequently as that of *grande*. The flowers, which are borne in a large, densely-packed truss, surrounded with its collar-like arrangement of leaves, are bell-shaped, of a rosy tint when first expanded, but become almost white with age, except a few purple spots inside at the base. This *Rhododendron* is one of the tenderest of the Himalayan kinds, so that it can only be grown out of doors in the favoured districts of the country. In his Himalayan journals Sir J. D. Hooker speaks thus of the *Rhododendron* in question: "In the same woods (at a height of 8,000 feet or more on the Sinchul Mountain) the scarlet *Rhododendron* (*R. arboreum*) is very scarce, and is outvied by the great *R. argenteum*, which grows as a tree 40 feet high, with magnificent leaves 12 inches to 15 inches long, deep green, wrinkled above and silvery below, while the flowers are as large as those of *R. Dalhousiae*, and grow more in a cluster. I know nothing of the kind that exceeds in beauty the flowering branch of *R. argenteum*, with its wide spreading foliage and glorious mass of flowers.—H. P.

Aponogeton distachyon (Cape Pond-weed) flowering in winter.—What a strange winter this has been. At Christmas my *Aponogeton* was blossoming through the sheet of ice which covered my little pond, and I have been able to gather buds of *Anemones* all through the winter; they opened delightfully in the room.—R. L., border of Surrey and Sussex.

Mr. Archer-Hind's Lenten Roses.—For the last day or two I have been delighting in the contemplation at every convenient opportunity of the most beautiful lot of Lenten Roses I have ever seen. They are from Mr. Archer-Hind's garden at Coombe Fishacre House, and one is inclined to envy their possessor the possession of the thousand of plants he grows. This is rather ungrateful, however, after being the recipient of a boxful of these exquisite blooms, which came all the way from Devonshire as fresh and charmingly beautiful as if they were newly cut. The variety of colour and of tint is surprising, although many a time I have had blooms considered of

superior quality sent to me for an opinion of their worth. Mr. Archer-Hind seems to have succeeded in raising seedlings which, as a whole, are much above the average, unless we are to conclude that the balmy air and the general climatic influences of Devonshire have been partly at the root of their exceptional charm. I hardly know which to admire most, although I prefer some whose rosy tinting is so chaste and pleasing. There is one exceptionally beautiful spotted one, whose contour and marking make a perfect combination. Such flowers make one come to the conclusion that one's own swans are but geese after all, and that one's own Lenten Roses, pretty though they are, are poor compared to them.—S. ARNOTT.

Orobanche on Egyptian Lentil.—I thought it might interest you to see the enclosed photograph of *Orobanche*, which grows wild here in great profusion on the ordinary Egyptian Lentil. Some of the spikes were nearly 2 feet 6 inches high, and of lovely shades of colour. I have raised this parasite in England on the ordinary Broad Bean, but have obtained nothing to equal those growing wild here.—F. FORMBY BACK, Luxor, Egypt. [Unfortunately, the photograph was too poor for reproduction, but we heartily thank our correspondent for sending it, and wish we could have made use of it.—EDS.]

Corylopsis pauciflora.—This delightful little shrub is the most showy of the several species cultivated in gardens, its leafless shoots in early spring being smothered with pretty pendulous catkins. It is a native of Japan, and though it has been known for many years only within the last five has it found its way into general cultivation. When fully grown it makes a dense bush, with graceful branches 6 feet high with a similar diameter. The leaves are small, thin in texture, prettily tinted when young, and again in autumn. The flowers are primrose-yellow in colour and fragrant. They are arranged from two to four together in drooping catkins from every node on the previous season's wood. Though it is quite hardy in other respects the flowers are easily damaged by frost. It is well worth growing in pots and using for conservatory decoration. A plant is growing in a border of loam in the Himalayan house at Kew, and appears perfectly happy under the treatment, flowering profusely every spring; at present it is a mass of buds and flowers.—W. DALLIMORE.

Pittosporum revolutum.—Very few of the numerous species of *Pittosporum* can be called good flowering subjects, for although in some cases flowers are very freely produced they are, except in three or four instances, insignificant in size and colour. The plant under notice is one of the showiest of the genus. It was introduced from New South Wales by Sir Joseph Banks, and was cultivated in gardens upwards of a century ago. It forms a straggling bush about 3 feet in height, with somewhat leathery, ovate leaves, the under surface of which, together with the bark on the younger parts of the stems, is covered with a brown tomentum. The flowers are yellow, tubular, a third of an inch long, and freely produced, either singly or several together, in short racemes from the axils of the leaves or in nodding terminal racemes. As the axils on the upper portion of each stem are close together, the ends of the shoots form large inflorescences. It is an easily-managed plant, requiring sandy peat and loam, with protection from frost. It has been flowering for several weeks in the temperate house at Kew.—W. DALLIMORE.

The Almonds of South London.—Dwellers in the southern suburbs of the metropolis have many blessings, and amongst the chief must be classed the freedom with which Almonds have been planted. Just now we are revelling in a wealth of beautiful blossom. A week ago the buds were plump, but had not burst. Friday's rain, though cold, seemed to exercise a magical effect, for on Saturday there was a glow of colour, and a day or two later we were amidst the freshest beauty. We have many trees, but could find appreciation for thousands more, for, in London at any rate, there is no early-flowering tree that can match the Almond for beauty.—H. J. W.

Scented-leaved plants for summer beds.

—Two or three beds may always be devoted to plants with scented leaves in any summer bedding arrangements, with just a few flowering plants as *Heliotropes* mixed with them to give a bit of colour. Apart from the interest caused by the different types of foliage and the perfumes emitted, the majority are valuable in a cut state as an accompaniment to nosegays of flowers. For large beds, in addition to *Heliotropes*, a few Lemon-scented *Aloysias* and *Eucalyptus* may be used as specimens. Seed of the *Eucalyptus* should be sown early in the year and grown along quickly in warmth until hardening off time to secure good plants. Scented-leaved *Pelargoniums* in variety may form the groundwork of the beds; sorts like *denticulatum*, *fernæfolium* (one of the best), *radula* major, the large and small-leaved *Peppermint-scented Lady Plymouth*, *Little Gem*, and others. The vigorous-growing kinds such as *radula* and *tomentosum* should be sparingly planted. All, however, can be allowed plenty of room to develop. *Lady Plymouth* will supply silvery foliage for the centre of the beds, and towards the edge clumps of *Manglesii*, which is also slightly scented, can be alternated with *Little Gem*.—E. BURRELL.

Crocus Balansæ.—This charming little deep orange-yellow *Crocus* is at present in bloom with me, and draws to itself much admiring attention, even though there are many rivals to our affections in the other *Crocus* species as well as among the great Dutch *Crocuses*, which have certainly a good claim to our admiration also. I am not so fortunate as to possess two of the varieties of *C. Balansæ* which are in the collection of Mr. E. A. Bowles, the only form I have being that with the brown outside, while Mr. Bowles has a plain form and also one feathered with orange. I had the pleasure of seeing flowers of these varieties last year. The form I have here is more easily obtained from the bulb dealers, and is pretty enough to please even the most fastidious. When closed it may be called a dusky beauty, with its ruddy brown exterior, lightened up, however, by streaks of orange at the tips. When it is open this is not visible, and one only sees then the glowing orange of the interior.—S. ARNOTT.

Narcissus pallidus-præcox.—My first flower of this charming *Daffodil* came into full beauty on February 26, about a fortnight after the tiny little *N. minimus*. The greater number of my plants had, however, still to open when this was written (March 4). It takes nothing from, but rather adds to, the value of this beautiful Pyrenean *Daffodil* that it is variable in its time of flowering as well as in its form and shades of colour. All are beautiful, however, and all worth growing in gardens where this species will thrive. As illustrating how difficult it is to be positive about the conditions any plant requires, I may mention that this first flower is one on a clump which is growing in a place such as we are sometimes recommended to avoid, i.e., a sunny and warm position. It faces almost due south, and gets all the sun that is going. In our northern gardens, at least, it is a mistake to plant the white or sulphur *Narcissi* in the shade.—S. ARNOTT.

Roses at a Melbourne show.—It is interesting to learn from the "Austral Cultivist" that the following *Roses* created interest at an exhibition:—*Bessie Brown* (Hybrid Tea).—A beautiful *Rose*. The petals are smooth, shell-shaped, making a perfectly formed bloom of great substance. The colour is creamy white, with suggestion of pink on the base of the bloom. A great point in its favour is its delicious perfume. *Mrs. Edward Mawley* (Tea).—The blooms are large, of great substance, beautifully formed, with long pointed centre, from which the petals reflex. Colour, a salmon shade of pink. Very sweet scented. *Sunrise* (Tea).—This *Rose* was awarded the gold medal of the National *Rose Society* as the best new Tea exhibited at the *Rose show* held at the Crystal Palace, England, in 1899. The colourings are very pretty; the outer petals have a tinge of carmine, shading to fawn and salmon towards the centre, changing to yellow with age. A sweet scented and free blooming variety. *Meta* (Tea).—A very sweet scented variety. Colour,

crushed strawberry, suffused with saffron and coppery yellow. The buds are long and pointed. This is a charming variety for decorative purposes. *Killarney* (Hybrid Tea).—This a charming decorative *Rose*. Colour, flesh, suffused with pale pink, shaded to white. The buds are long and pointed, flowers large. A very free blooming variety.

Veitch's climbing French Bean.—In forcing French Beans a great difficulty is, as a rule, the lack of space in which to grow the plants. It may not have occurred to some people that a crop of the above variety can be had off the back wall of a vinery. For this purpose seed should be sown in small pots or boxes, and the seedlings transplanted when about 1 foot high, or they may be grown permanently in large pots or boxes, strings being placed for them to climb up. This is a very productive Bean, and it sets its pods indoors equally as well as the ordinary French Bean, and the fact of its climbing habit renders the crop of longer duration. I should have mentioned that they ought to be planted at the time of starting the vinery.—E. H.

Strawberries Royal Sovereign and La Grosse Sucree.—It is a question whether anyone could find two better *Strawberries* for forcing than the above. We gathered our first fruits of *Royal Sovereign* on the 8th of February, and they were very fair samples for so early in the season. This should be a strong point in favour of this variety for very early forcing. I prefer it to *Vicomtesse H. de Thury*, in that its flowers are more vigorous and thrown well above the foliage, which greatly facilitates setting. *La Grosse Sucree* is a grand companion to *Royal Sovereign*, but not such a good setter, and consequently should not be forced quite so early. The fruit is deeper in colour, and is often asked for indoors in preference. One often hears of the failure to force *La Grosse Sucree* successfully. I think this may be due to the stock being worn out. I have known change of stock bring about desirable results.—E. HARRISS.

Adonis amurensis.—The fact that this comparatively new *Adonis* was honoured with an award of merit at the meeting of the Royal Horticultural Society on February 26 ought to draw some attention to its usefulness in the garden at so early a period of the year. Not that one can always estimate the proper time of flowering from the dates at which plants are shown at the Drill Hall, as can readily be seen from the reports in your columns of the plants on view. Many of these must be grown under glass, and cannot thus afford a true criterion of their flowering time in the open. I flowered *Adonis amurensis* in the open border on February 28, although this is not an abnormally early year, and my garden, though in a mild district, is pretty far north. It is thus worthy of remark that this *Adonis* blooms so early, and that it is worth growing, although considerably inferior to a good *Adonis vernalis*. I have at the present time no other plant of its character in bloom, so can the better appreciate its yellow flowers and pretty finely cut foliage. By the way, does anyone know anything about the other colours mentioned in Nicholson's invaluable "Dictionary of Gardening?" It is rather tantalising to read of this *Adonis* as "golden-yellow, white, rose-coloured, or bright red, striped," and to be able only to get hold of the yellow variety, acceptable though that is. From the price at which *A. amurensis* was offered last autumn, I imagine that it has been imported on a large scale, so one hopes that it may turn out that some one has these other varieties, which ought to be well sought after.—S. ARNOTT, *Carsethorn, by Dunfries, N.B.*

A new Apple.—One of the most interesting exhibits the fruit committee of the Royal Horticultural Society had before them recently was a new cooking Apple, the *Diamond Jubilee*, doubtless named in honour of her late Majesty's Jubilee, and from the samples placed before the committee the fruits deserve the name. It is considered a cooking kind, but it may be regarded as a dessert variety also, though full large as regards size. At first it was thought to be *Alfriston*, but it was totally different in flavour, though not unlike it in appearance. This new fruit was raised by Mr. A. J. Thomas, Sittingbourne, Kent, who has on

previous occasions shown some remarkable collections of hardy fruits, and who is much interested in their culture. We heartily second his efforts in this direction, and we are pleased he has given us such a good late keeping Apple. We have none too many, and this variety also crops well, and will become much liked when better known. It appears to do well in any form, and on the *Paradise stock* will doubtless prove very profitable.

WOODLAND AND FOREST.**WHEN TO PLANT.**

SPRING *v.* autumn planting has been a much-discussed question, but there is not so much in it as some imagine. You may plant most things successfully at either season under suitable conditions of weather, but autumn is undoubtedly the best season of the two, and by autumn is here meant August, September, and October, and not November and December. Take almost any book, up to a few years ago, on forestry or planting, and you will find instructions to begin planting when the work ought to be finished. Autumn planting is particularly applicable to

CONIFERS AND EVERGREENS, with which a year is frequently gained in growth. That is not of much consequence in planting a few shrubs on a limited scale, but it means much in a plantation of timber trees, in which a year's growth lost may mean thousands of cubic feet on the ultimate crop, and when every foot may mean a shilling or more. If you plant in autumn early enough the chances are that the ground will be getting moister instead of drier, as in spring, and the sun less powerful, while the roots of trees have still time to recover from removal and get a hold of the soil. This means a good start the following season and a fair growth. By autumn planting you begin with the tree when it has just finished its annual growth, and it recovers itself sufficiently to go on without much check the following season. In spring, especially where the rainfall is light, the transplanted tree barely moves, and often dies. I am here speaking of trees without balls of soil to their roots. Where thousands of forest trees have to be got in, the roots are free and often few, especially when the trees come from a public nursery. August may be thought too early to move trees, but any of the *Firs* that have plumped their terminal buds may be removed with perfect safety then. *Larch* is an exception, as its shoots are generally soft till late in autumn, but it is not reckoned among evergreen *Firs*. The only objection to early autumn is drought and a too dry soil, but as a rule the latter is moist enough for planting operations. Far more depends on the way the plants are got up and got in than on their chances after. No wonder there are so many failures in planting, but they need not exceed 5 per cent., though 50 per cent. is common, and no wonder. One dry day, on an estate that I visited in spring, I came on a squad of planters at their midday meal. Young trees from a nursery, probably long out of the ground before arrival, were lying exposed upon the ground, and numbers were laid out on the rows by boys before the men, presumably to expedite the work, all bleaching in the sun and wind—killed before they were got in. Delay and exposure in planting evergreen *Firs* is one of the chief causes of failure. The tender roots are frizzled up and nothing but a few bare prongs left, which must produce fresh rootlets before the tree is safe, but if the weather

should turn out dry and the notch system of planting is adopted, the chances are that a large proportion of the trees will be dead by midsummer. Whenever the leaves of a Scotch or any other Fir become brown or even a pale green colour, and the shoots have a soft, leathery feel, the plant is done for. The experienced eye can tell trees of this description as far off as it can see them. Given trees, however, that have been got up from the nursery carefully, sent off quickly, packed with their roots covered while moist, and delivered to the planter in good condition, nearly every tree should grow. But if the weather is at all dry the roots should be puddled in planting, and that may be done with little trouble with hundreds of thousands of trees. A water-barrel cart should attend planters, and with that a thick treacly puddle can be made at any spot in which the roots of thousands of trees can be dipped in a few hours. This soaks and refreshes the roots, which will remain wet till they are planted if the workmen do not attempt to carry too many at one time. There should always be one man with a squad of piece planters, who does nothing else but look on to see that the work is properly executed.

PUTTING THE PLANTS IN.—TOOLS.

The practice of digging pits 18 inches wide by 1 foot deep weeks before planting is neither more nor less than a pure waste of time. Whoever saw a young forest tree of the usual planting size from a nursery that required a big hole? Is it understood how much thousands of such pits cost to dig out in soft, let alone hard, ground? In some cases that I have known, the price of pitting alone would have paid for the trees and planting. Pit and plant at the same time, assuming that the surface is clear, and use the narrow handy planting spade. This tool has a curved blade like a draining spade, is 12 inches long, 5½ inches in breadth at the top, and tapers to 3½ inches at the point. It is more like a big garden trowel than a spade, and is the tool the planter likes. He gets quickly into the ground with it, and it makes a slit or a hole just big enough to admit the roots of the tree and can be used like a dibber to wedge it up. I am surprised to find this tool so little known. The common garden spade is generally used, but it is far too broad in the blade for planting forest trees and nearly doubles the work. I notice in the tool lists of the great forest tree nurserymen that they have every tool illustrated but the planter's spade.

In planting, the hole should be taken out as planting goes on. A man may go before the planter and dig the holes for the sake of expedition, but they should not be dug long enough before to let the soil turned up get dry. The hole should be just the shape, depth, and width of the spade, and go straight down. Into this hole the roots are dropped straight and wedged up firmly to one side. The spreading out of the root theory of planting forest trees is nonsense. Such trees never have any roots to spread, and often barely enough to fix them. But, whatever roots they may have, let their toes hang straight down as far as they will go without burying the collar, and so be out of the reach of drought and frost. Get a tap-root position for the root at first if you can, and in a couple of years the roots will right themselves.

Where autumn planting cannot be carried out, spring planting is far preferable to planting in winter. March, April, and May are the best months in my experience, and I have gone on to June 15 with Corsican Firs and lost hardly any. The danger of spring planting is dry weather, a bright sun, and keen east winds. I have seen spots in the eastern counties where

I would not plant extensively in spring on any consideration. The rainfall is so light and the soil so dry that failure is almost certain. It surprises one, from the wetter parts of England, to hear the complaints about drought in some parts of the eastern counties, but when one considers that between the maximum and minimum annual rainfall of the British Islands there is a difference of 60 inches, it is evident that the effects upon both trees and plants must be of a corresponding nature.

WINTER PLANTING.

Planting any of the Firs in midwinter means a much larger proportion of failures than happens at any other season. The reason of this is that the young trees suffer from exposure in lifting in the first instance, and after they are put into the soil they are very much in the same position as cuttings, for the mutilated roots are paralysed by cold till the temperature of the soil rises late in spring. Plants with evergreen and more or less active foliage cannot stand it, and they die or are crippled for years.

DECIDUOUS TREES.

Forest trees that shed their leaves annually are more easily dealt with. Autumn is, however, the best season for planting these also, and, provided the young wood is hard, the transplanting may be begun without fear whether the leaves are on or off. It is certain, also, that early autumn-planted trees produce most growth the following season—that is to say, time is gained. Leafless young hardwoods will, however, endure winter planting pretty well, provided the roots are not long exposed between the getting up and the planting. What goes on in nursery lifting, however, is sometimes inexcusable. One day when going into the packing-yard of a large nursery I saw thousands of young trees (on order) lying about, tied in bundles of hundreds, exposed to all weathers. How long they had been there and out of the ground I did not enquire, but every day out of the soil, unprotected, means failure. I cannot too much impress upon inexperienced hands the importance of a quick transfer from the nursery to the woods. It is here where the value of the well-managed home nursery comes in, because the planter can begin and leave off work just according to the weather, and need never have a greater number of plants out of the ground than he can put in in one day.

The objections to spring planting would be less if these precautions were always taken. After all, when a plant is put into the ground at the beginning of the growing season it must either begin to grow or to die, but, given a soil in a moderately moist state and a plant with a fair proportion of fibrous roots not long exposed, few trees should fail. It is the first few weeks after planting when there is most danger. The roots begin to heel as soon as they are transplanted, and will then endure considerable drought and keen winds. In spring it is the rapid evaporation from the leaves of Firs and evergreens that tries them, and if the roots do not come quickly to their aid they die, but deciduous trees do not suffer to the same extent, because they have no leaves when planted, and only begin to grow when the roots come into action. J. SIMPSON.

“IN A SMALL WAY.”

NOTES FROM AN OBLONG GARDEN.—XVIII.

As a kind of miniature trial result the record of my Crocus pans may have some interest. They all succeeded except the one of *C. sulphureus aureus*, the leaves of which came up

oddly twisted or cork-screwed at the points, which I imagine is not their normal condition. The buds appear to be healthy, but will not be fully developed until after those of *C. aureus*' common progeny of the garden, the gay Dutch yellows, whereas they ought, all things considered, to be well in advance. The reason for the appearance presented by the leaves is not easy to find, for this pan was not exposed to any conditions of cold, &c., that were not fully shared by others, which were not so affected.

My first spring pan to bloom was, of course, that of *C. Imperati*, which opened its first flower on January 2. It showed its variability even where so small a number of bulbs as twenty-five (the number planted in each pan of Crocuses) was concerned, for some of the blossoms had deep purple featherings and stripes on their chamois-hued outsides, while others were only faintly tinted with lilac lines, and others again were plainly buff without. The contrast of the rich lilac of the interiors and the buff exteriors is very charming, and the whole flower is a slender graceful thing. All these Crocuses responded most eagerly to the warmth of the rooms when brought in from the cold greenhouses, opening and expanding their buds with almost magical rapidity. When first the pan of *C. ancyrensis*, next after *C. Imperati*, came in it wore a somewhat hopeless aspect, for the weather just then—January 7—was very cold, dull, and snowy, and the little yellow buds looked nipped and wrinkled, and seemed shuddering with chill. But in one hour—no more—they were open, and quite gay and happy. Nor did the change to a more genial temperature cause them, or any of the others, to go off quickly; they all closed up at night and took life temperately and with moderation, lasting a wonderfully long time for such delicate blossoms. Especially was this the case with *C. Sieberi*, which of all those I have tried I like the best, and which is surely the very perfection of a bulb for pan culture. The brilliant blue-lilac flowers with their glorious orange-vermilion stigmas are, though small, extremely showy, while each little bulb bore from five to seven blooms, and their flowering lasted altogether for nearly six weeks. First there was one gay crop of bloom, then a short period of comparative shabbiness—perhaps a week—during which I picked off all the fading flowers, and then a second burst of gaiety and colour. Twenty-five bulbs of *C. Sieberi* at about 4s. per hundred cannot be said to be an expensive luxury, and they will certainly outlast and outdo many other bulbs costing five times as much in proportion. *C. tommasinianus*, which is an absurdly cheap Crocus listed in the Newry book at 2s. 6d. per hundred, was the wind up firework of my display, and although it is less well suited to pan culture than the dwarf and sturdy Croci, like *ancyrensis* and *Sieberi*, it was exceedingly charming and lasted very well on the table in the sunny window where all the spring bulbs are brought from the cold greenhouse. It is more of a Colchicum in looks than a Crocus, except for its purely Crocus-like leaves, and has the delicate white flower stems which are so dainty in the Colchicums, and yet give them rather a weird look, as of something exotic, fragile, and apart from ordinary vegetation. Next year I shall add many more varieties to my pan Crocus collection, although I fear neither purse nor space will enable the (unintentional) pun to become a verity, in view of the great number of this delightful family catalogued by specialists. The culture of the more out of the way small bulbs in pans seems to me more delightful the more I see of it, and



STRAFFAN HOUSE, CO. KILDARE, IRELAND (FROM THE BANK OF THE LIFFEY).

it offers possibilities to people who have little or no convenience for gardening which it is a pity should be so universally overlooked. I should like to provide all the enthusiasts who are perforce obliged to spend their energies on window boxes, which are so trying and unsatisfactory in many ways, with fifty pans or so, in or out of a cold frame, for a change, and see how they enjoyed themselves. I always feel most deeply for the poor London folk who, as may be seen by their back window efforts, visible from the train as one canter down by the London, Tilbury, and Southend line, and in other similar districts, do really take pains to get a few flowers, but have no notion how to set about it beyond the stereotyped Geranium and Fuchsia perhaps served out, in a kindly effort of philanthropy, to them by the well-meaning promoters of a parish flower show. Of course the unfortunate circumstances preclude their doing much even with better material if they had it, but when I see these poor plants in fish tins and so on, I remember vividly how in my own green London youth I tried to get roots of Daisies and Pansies off the "all-growing" man's barrow to go on with their boasted process in pots on my own windowsill, and how resolutely they refused to oblige me. We had smoky, grimy evergreens in boxes on some leads at the back of our terrible tall London house, but although I was the only person in the house who took the least interest in them, interference with them was strictly prohibited. Perhaps one gardens with all the

more fervour in after life for an earlier enforced abstinence, but it is sad to think of all the spoilt gardeners who will live their whole lives out without one chance of expansion.

Although this has not been a hard winter it has been a very trying one in the great want of sunshine we have experienced. Our local paper informs us that there were eighteen days during January in which his majesty showed a cheerful countenance; but I should have said that eighteen hours during the month would have been a liberal computation of the beams actually enjoyed. Withal, we have had rain to a most depressing extent, and damp, dull, soppy days one after another, and it has been cold, fusty, and mildewy in the little greenhouse. In spite of all these evil conditions, things there are in good heart. The pots of *Primula verticillata* (the Abyssinian Primrose), though it is supposed to be a warm greenhouse plant, look much better than they did last

year when the house was warmed; none of the under leaves have rotted or turned yellow, as they used to do in a very trying way, and the plants look thoroughly healthy, though they will not flower so early as under warmer circumstances. This charming clear yellow *Primula-Primrose-Polyanthus*—it is a mixture of all three to speak most unscientifically—with its powder-white leaves and faint but penetrating Cowslip scent, is my dear old favourite, and every year after it flowers I divide each plant into two or more, and have some to keep and some to give away.

I see "S. W. F." in *THE GARDEN*, page 102, speaks of *Anemone apennina* already in bloom. This makes me sad, as my *A. apennina* is not even showing one curled claw of leaf yet, and I begin to think of field mice, though whether they would eat up the pretty blue *Anemone* as they do the pretty blue *Squills* I do not know. Surely never was a gardener so plagued as I by small beasts of sorts—the country vole and the town sparrow, the exotic American bug and slimy indigenous slug, the rural blue tit, and the bold city jackdaw, all alike make this miserable little Oblong their rendezvous; the only two creatures that hardly ever seem to meet here are the thrush and the snail!

Adam has netted the Carnations and Pinks, and is preparing to use up another reel of black cotton about the Crocuses, weary work and annual task, but we should have none of either were it omitted. As a reward for some lately rendered services in this and otherwise

he has claimed a little waste corner whereon to exercise his one ambition in the gardening line, and the only bit of horticulture that stirs his sympathies—the growth of a Vegetable Marrow! Positively the only green Eden in which I can imagine Adam content is that which would be designated across the Atlantic a squash-patch!

M. L. W.

IRISH HOMES AND GARDENS.

STRAFFAN HOUSE GARDENS, CO. KILDARE.

STRAFFAN HOUSE stands on the banks of the river Liffey, as it meanders through the deep and fertile alluvium in the great plain of Kildare. The distance from Dublin is something under twenty miles; the railway station at Straffan is about two miles from the demesne, and the most notable landmark on the road thence is the fine stone bridge of three arches that spans the river a few hundred yards below the mansion. To stand on this bridge on a bright winter's morning, and to look up the stream, as it is fringed on both sides with crimson Dogwood and with red or cardinal and gold-barked Osiers, is to look upon the best object-lesson as to winter colouring in the landscape that I know of anywhere. As the sun gleams out from behind a grey cloud the flash of soft pure colouring is quite prismatic or rainbow-like as seen in contrast with the olive green water, and as surrounded by the greens and greys and browns of the usual park scenery.

Straffan is situated in a very land of good gardens; Carton, the seat of the Duke of Leinster, being only a few miles away, and there are Lyons, Lucan, and other fine old places in the more immediate vicinity. As a garden, that at Straffan has long been famous, not only for its verdure and its fairest flowers, but for its fertile fruit and vegetable gardens as well. At the present moment the clouds or sheets and masses of Snowdrops under the lawn trees are a great attraction, being just at their best and most beautiful. Originally planted under one or two of the Lime trees on the lawn, they have spread all about the place and over on the island formed by a bent arm of the river in front of the house. The Snowdrops, the Winter Aconites, and the Daffodils alike grow very luxuriantly at Straffan, and, moreover, seed freely, and so the stock is increasing rapidly, and can thus be transferred to suitable localities in the island and outlying portions of the place. The great masses of Snowdrops now in bloom are common single, but even these vary considerably in size, height, and habit, and also in being earlier or later to bloom. Many years ago the late Lord Clarina, when at the war in the Crimea, brought home some Snowdrop roots, amongst which was a large and bold late-flowering variety of *Galanthus nivalis*, now known as *G. n. grandis*. This is very beautiful as seen here, being even more luxuriant and taller and larger than the ordinary type. *G. Elwesii*, *G. Scharloki*, *G. plicatus*, *G. Cassaba*, *G. Ikaræ*, and other species and forms are also grown, but as I have said the broad and general effect of the masses now blooming under the lawn trees is given by the common kind.

The house itself is somewhat like a modern French house, being painted white with a mansard roof, flanked at one end by a picturesque campanile-like water tower. It is well elevated on a terrace which overlooks an old-fashioned box-edged parterre, and there is a lovely peep down the river to the great limestone bridge, and beyond to the grassy slopes

of the hill at Lyons, one of the few elevations in the vicinity.

Like all good and satisfying gardens this one has been long making, and there has been no cessation of well-directed endeavour. It is enjoyable every day in the year, and go when one may there is always something of interest to see either outside or in the well-stocked greenhouses and stoves. Not only are hardy flowers and alpine grown, but Violets, Carnations, Lily of the Valley, and Mignonette you will find at Straffan all the year round. The summer bedding is also very rich and beautiful; tuberous Begonias, Fuchsias, Heliotropes, Verbenas, Violas, and many other sweet or effective plants being tastefully used. Heliotropes as pyramids or standards, Arundo Donax Eulalia japonica of sorts, Aralias, Fuchsias, and other tall plants being well placed help to do away with that stiff and formal flatness which detracts so much from many summer flower gardens. A little bit of wall 5 feet high or so near Mr. Bedford's house is an object-lesson on wall gardening, being studded as it is with fifty or more rare and beautiful species of alpine or rock plants, with a dense line of the great Straffan Snowdrop (*G. n. grandis*) below. There is scarcely a day in the year when one or other of these tiny wall flowers are not in bloom. The gardener's house itself is embowered in Japan Honeysuckle, Roses, and Clematis; amongst these the scarlet blossomed Flame Flower (*Tropaeolum speciosum*) clings, climbs, and dangles all through the summer and autumn in a very pretty way.

F. W. BURBIDGE.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

HIDALGOA WERCKLEI.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—This climbing member of the Dahlia family, alluded to on page 158, bids fair to be a thoroughly good garden plant, and one that will in all probability be widely distributed during the coming season. Last summer it formed an attractive feature in the temperate house at Kew for some time; its rapid climbing growth, prettily divided leaves, and bright orange-scarlet blossoms, like single Dahlias, at once arrested attention. It was first discovered by Mr. Carlo Werckle in 1898, in the mountainous regions of Costa Rica, and passed into the possession of Mr. J. L. Childs, nurseryman, Floral Park, New York, being distributed under the name of Childsia Wercklei, or Treasure Vine. In the States it has already become popular, and is now disposed of at a cheap rate. It is readily propagated by cuttings of the young growing shoots. When one considers the development of the Dahlia from comparatively small beginnings the question suggests itself whether the introduction of this Hidalgo may not have far-reaching results.

T.

COX'S ORANGE APPLE IN SPRING.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—This, the queen of dessert Apples, has been frequently written about in THE GARDEN, so that it may seem out of place to again refer to it; but many readers do not know its value for dessert. The present note is to point out the advantages of Cox's Orange for dessert at this season, and this was fully demonstrated by the splendid dish of fruit shown at a recent meeting of the Royal Horticultural Society by its worthy secretary, the Rev. W. Wilks. Mr. Wilks recommends this variety for keeping, and when it can be kept so do I; but owing to its splendid quality the fruits very soon disappear. To plant more trees is

the proper course to take, but still the demand is larger than the supply. Cox's Orange Pippin is none too trustworthy, as at times the crop is thin. As regards its keeping properties there is no question—given the cool storage adopted by Mr. Wilks. It is also a good plan to let the fruit hang late on the trees. Also grow this variety in diverse forms, so that if some fail others bear. The late Mr. Anthony Waterer used to always keep this Apple well until the end of May. This shows its value for late dessert.

G. WYTHES.

Syon House Gardens, Brentford.

CAMPANULA HENDERSONI.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Pending your promised articles on the dwarf Campanulas, I shall only at present remark that Campanula Hendersoni is not a biennial, though it does succeed in getting lost in some gardens in a year or two. I had a plant here for nine or ten years. It became quite hard and woody at the base, but continued to bloom annually. I think, however, that it objects to removal when it has reached any size, and that the periodical border renovations are not quite to its mind. It does not increase at the root with me.

S. ARNOTT.

Carsethorn, by Dumfries, N.B.

CHIMONANTHUS FRAGRANS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—There would appear to be some confusion in the nomenclature of the large flowered forms of the Winter Sweet, for I notice that Mr. Crump, on page 125, says of grandiflorus "that although larger than the type, it is paler in colour and not so free-flowering." The form we have here that has been called grandiflorus, has, on the contrary, large flowers of a much deeper shade than the type, and is quite as free. It seems that there must be two distinct forms. We have to-day (February 25) lifted the layers put down in the autumn of 1898, and found them well-rooted plants.

Claremont, Esher, Surrey.

E. BURRELL.

ROSE FORTUNE'S YELLOW FAILING.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In a large span-roofed house here is a Fortune's Yellow Rose planted out, and almost covering the entire roof. It flowers most profusely; in fact, thousands of blooms are cut from it annually; the blooms are well developed, and are an excellent colour, but, unfortunately, just as the flower buds are opening many of the young leaves drop, and give the tree a naked appearance when in flower; this happens annually. Would any rosarian kindly inform me through the medium of THE GARDEN if such is a natural failing of this particular Rose? I quite understand when the Rose begins to shoot out the old leaves dropping off, as in the case of most Teas or Noisettes, but this second shedding of leaves seems a mystery. I may say the Rose is slightly forced, and I never allow any bottom ventilators to be opened after starting into growth, neither is the border allowed to get dry.

Crichel, Wimborne.

P. ISHERWOOD.

THE INDOOR GARDEN.

EPACRIS.

NOT so much grown as formerly are these greenhouse shrubs; the reason for this is hard to define, for their flowers are most useful for cutting or for the conservatory during the winter months. The habit of growth and the colour and form of the flowers of the various species and varieties are very different. Some are of erect growth, whilst others are drooping. The first-named section require annual pruning immediately after flowering, but those of a scandent habit should not be severely pruned, merely thinning out the weak shoots after flowering. Golden rules to observe in the cultivation of Epacris are efficient

drainage, firm potting in peat and sand, clean pots, and careful watering. At no time should the soil about them become dry, but water should be withheld for a week or two after the flowers have faded. A thorough ripening of the current season's wood is essential, and this is best brought about by placing the plants on an ash bed in a fairly sunny situation for the summer months.

The roots of the Epacris are quite hair-like, and easily killed by careless watering. The cultivator should practice the old method adopted by hard-wooded plant growers of testing each plant by weight. A little thoughtful practice will soon make them proficient in the art.

The uses to which the flowers may be put are varied—as sprays for the adornment of ladies' head-dress they are useful, also as coat flowers, or for vases.

Unlike many of our new popular flowering plants, the Epacris if properly attended to will produce an abundance of flowers year after year. Healthy young plants may now be purchased for a reasonable sum, hence it is unnecessary to propagate from cuttings, for the process, although interesting, is slow.

Any plants requiring potting should be attended to just as new growth commences after flowering. Keep them for a few weeks in a warm greenhouse, and syringe them twice daily until the growths are an inch or two in length, when they should be removed to a cold house before being placed in the open.

H. T. MARTIN.

Stoneleigh Abbey Gardens, Kenilworth.

PLANTS FOR EDGING INDOORS.

IN arranging plants for effect, either in the conservatory, exhibition tent, or for other decorative work, a good edging adds considerably to the appearance, and there are many suitable plants which may be grown with little trouble.

FICUS REPENS

is one of the most serviceable. Propagated from the young shoots in spring, about a dozen cuttings may be put in each pot (4-inch pots being a useful size). Soon after they are rooted they may be stopped once, grown on in the stove, and if placed on a shelf where the shoots can hang down the pots will soon be covered with bright fresh green foliage. The length of the pendant shoots can be regulated by stopping as required. Ficus radicans variegatus may be treated in the same way, but is rather slow unless grown in a high temperature, quite different to the ordinary F. radicans, which grows very rapidly, and where long drooping shoots are wanted for baskets it may be recommended in preference to repens.

ISOLEPIS GRACILIS

hardly requires any recommendation, but to have it in good condition the stock should be divided periodically, potted in good rich loam, grown fully exposed to the sun, and with careful attention to watering it will grow freely, but it does not succeed under the shade of other plants.

PANICUM VARIEGATUM.

This pretty variegated grass may be grown in a shady position, and the white variety will be more distinct. The same plants do not last in good condition for a long time, but it is easily propagated from cuttings, which may be put in at any season of the year. Several cuttings put in and grown on in the same pots soon make useful material; they may require stopping once or twice. This may be used for any ordinary decorations, except in very cold weather, and it is only in the stove that it can be kept through the winter.

SELAGINELLAS.

There are several of these which may be recommended. S. kraussiana and its yellow variety is most in demand. S. serpens is a compact neat-growing variety, which soon covers the pots. S. apus, a dense, compact variety, is useful for some purposes. All of the Selaginellas should be grown fully exposed to the light; a slight shading may be necessary during the summer, but it is surprising how much exposure these apparently shade-loving plants will withstand if gradually inured.

FERNs.

Of these, *Davallia dissecta* and others of similar growth are useful, especially when raised from spores. Grown on freely the rhizomes soon spread over the surface of the pots, and seedlings make compact well-furnished plants. They should be grown on a shelf, where the rhizomes can spread over and develop fronds without being damaged.

A. HEMSLEY.

CROCI AT KEW.

THE Croci are the first harbingers of spring, at least to make dashes of colour in borders, woodlands, and upon such slopes as represented in the illustration, which shows the Croci on the Cumberland Mound at Kew. Soon the Daffodils will open in profusion, followed by Tulips, the blue Scillas, and many other flowers as happy in grass as in the border. Flower gardening in grass is delightfully expressed at Kew from Snowdrop time until the Colchicums have faded in late autumn.

ORCHIDS.

NOW in flower with Mr. Measures, The Woodlands, Streatham, are the following Orchids:—

CATTLEYA PERCIVALIANA × *LÆLIO-CATTLEYA ELEGANS*.

The daintily-shaped flowers of this new *Lælio-Cattleya* are very attractive, not so much from their size, perhaps, which hardly compares with that of hybrids from such parents as *Cattleya Warscewiczii*, *Lælia purpurata*, &c., but on account of the faultless shape and the clearly-defined colouring. The soft lilac-rose sepals and petals are uniform in colour and almost so in size, the petals being only slightly broader than the sepals.

The labellum is strongly suggestive of *Lælio-Cattleya elegans*, especially in the well-developed side lobes, which, being broad, crimped, and fluted, are of an intense magenta-purple, shot with a deep crimson glow, slightly paler on the extreme margins. The front lobe of the lip is deeply emarginate. The throat exhibits a soft blend of orange, crimson, yellow, and magenta, shading to rose-white; altogether a most exquisite hybrid.

LÆLIA HARPOPHYLLA × *CATTLEYA BICOLOR MEASURESIANA*.

This is a beautiful hybrid; the flowers are not large, but size is not missed where colouring, as in this hybrid, is so vivid. In some inexpressible manner the bicolor parent has intensified and rendered more beautiful the colour of *harpophylla*, at the same time increasing the dimensions. Both sepals and petals are of a brilliant orange-yellow, the two lower sepals being just a shade lighter at the lower portion. In contrast to them is the heavily-convoluted lip of deepest crimson-red, shaded with purple, the colour extending into the throat, but leaving a thin central line of light yellow. The side lobes are orange-yellow on the interior, but on their outer surfaces much lighter, and the tips are lightly flushed with lilac.

LÆLIA CINNABARINA × *CATTLEYA MENDELII*.

Lælia cinnabarina, in the colour and shape of its flowers, is closely akin to *Lælia harpophylla*, differing from that species chiefly in the greater number of flowers carried on a spike and their larger size and darker colour. Both species have been extensively used by the hybridist, and in the hybrid under mention the advantages of *Lælia cinnabarina* are well shown. The flowers excel in size and beauty those of any other cross derived either from *harpophylla* or *cinnabarina*, due to the careful selection of the two parents. The sepals and petals are deep cinnabar red, with a flush of a yellowish shade towards the margin. The lip is deep crimson-purple, dashed with port wine purple in the centre, and has the margins arranged in

heavy folds and undulations, a character obtained from *L. cinnabarina*. The side lobes are bright crimson-purple, relieving by their lighter shade the lurid colouring of the labellum.

Both this and the two preceding hybrids are flowering for the first time in Mr. Measures' collection.

CYMBIDIUM LOWIANUM-EBURNEUM WOODLANDS VAR.

Hybrids from *Cymbidium eburneum* crossed with *C. lowianum* and *lowianum* crossed with *eburneum* have been known for some time; in fact, a first class certificate has been awarded to each hybrid by the Royal Horticultural Society—a proof of their sterling beauty. Several plants have at different times been exhibited, but as yet none have equalled the present splendid form. Though flowering for the first time, the flowers are exactly 6½ inches across, and in colour surpass all the forms yet known. The broad, fleshy sepals and petals are of a clear ivory white, daintily shaded, chiefly on the margins, with a soft cream-yellow tint, while the upper sepal is faintly lined with green. The lip is particularly bright in colour, very large, and more elongated than is general. The base, the greater portion of the erect side lobes, and the basal and central parts of the front lobes are pure white. Except for an outer margin of pure white, the remainder of the lip is of a vivid velvet-like crimson-purple, forming a broad irregular band, and extending to the front edges of the side lobes. Through the centre of the front lobe is a narrow line of the same colour, meeting the yellow, raised, bifid crest, which, with the under surface of the column, is slightly spotted and streaked with red. The rest of the column is white, shaded with yellow on the upper portion. The flower spike is longer than in any other known hybrid *Cymbidium*.

CYMBIDIUMS AT THE WOODLANDS.

Few Orchids yield better decorative effects than *Cymbidiums lowianum* and *eburneum*, but seldom are they placed so as to reveal their true value in this respect. The grand specimens exhibited by Sir Frederick Wigan, Bart., at the last Temple Show probably attracted more attention than any other plants in the exhibition, but the staging of the group was eminently suited to their habit and inflorescence. These were all *C. lowianum*.

At The Woodlands two houses are devoted to these plants, and a few days ago the *eburneum* house presented a perfect picture from the profusion of flowers added to the luxuriance and deep glossy green of the foliage. The house is composed largely of rock-work, built in bold curves and irregular lines. In the pockets are immense specimens of *C. eburneum*—grand plants—proving from the number, size, and substance of the flowers how well the situation suits them. In the aggregate considerably over 100 blossoms, unrivalled for size and whiteness, must have been open. Single-flowered racemes were the exception, and the individual blooms far excelled in dimensions those usually seen on *C. eburneum*. Their perfume is delicious. Varieties of *C. eburneum* are not very common, but one form attracted the writer's attention. The sepals and petals were pure ivory-white, and the lip bore a marginal row of light rose-purple spots, placed at almost regular distances, while the crest was deep orange-yellow.



CROCI ON THE CUMBERLAND MOUND AT KEW.

THE FLOWER GARDEN.

THE SWEET PEA

MANY years' experience in the growth of Sweet Peas convinces me that more than half of their checks and failures in culture have arisen through the mistakes of growers in treating or making the Sweet Peas tender plants. The orthodox recipe for this is—sow the seed in heat under glass in February or March, and prick off into boxes or pots of threes or fives. When fairly up stimulate growth in a temperature of 45° or more, and when sufficiently large and the weather is fairly genial plant out. I am willing to confess that not a few fine Sweet Peas have been grown on these lines, though perhaps more have been crippled and many lost through our first making the plants abnormally tender, then subjecting them to unnatural treatment, and finally exposing our artificially made tender plants to the capricious alternations of temperature of our late springs. The present system cannot help making the seedlings and young plants abnormally liable to injury. Sow

Another and some might say a better mode of raising and forwarding sweet and edible Peas without risk of future injury to their roots is the following: Cut any number of fibrous turves likely to be wanted, 2 feet long is the handiest length, and 3 inches or 4 inches wide and 2 inches thick or deep. Then with a sharp-pointed triangular-shaped trowel or strong knife remove the earth at least an inch deep as the turves are laid on their green backs on the potting shed or strong board. Then remove these readily portable pieces or turves on trays with as little injury as possible to the frame, pit, orchard house, floor, or wherever the Peas are to be fostered. Pack them more or less close, as Pea space or room allows. They must not overlap, but the edges of the turves may press against each other, though it is better still when 1 inch or 2 inches or even a turf space can be left between each two. Anyhow, lay the turves level and firm on their green backs. If at all dry or poor give a good soaking of water, or, better still, house slops or yard sewerage. Sow the Sweet Peas thinly along the tiny drills in the centre of the turf, and cover the seed with an inch or two of soil, consisting of the loam removed.

Sweet Peas under glass can hardly do better

25th or thereabouts, retards rather than advances the blooming of our Sweet Peas.

Sow the Peas in the open air in succession from October to June, the latter not seldom adding Sweet Peas to the charms of a green Christmas, and we may also anticipate the ordinary period of blooming by a month. Without our nursing it into tenderness under glass the Sweet Pea is far harder than we can ever make it afterwards. It is easy to enervate and weaken either Sweet Peas, or other plants, or ourselves, through excess of heat or coddling, and is always a difficult, not seldom an impossible task to restore normal stamina and natural constitutional vigour and vitality either to plants or animals. The labour and trouble involved in our present methods of Sweet Pea culture are very considerable and the results often disappointing.

We may get rid of all the extra work as well as the failures by treating the Sweet Pea as a hardy annual, and sowing the whole of them in the open air at the most convenient seasons in succession from October to June. In my anxiety to do justice to present methods of raising Sweet Peas, I find this article has grown so long that a few notes on the best modes of growing, and especially staking and training, Sweet Peas had better be left for a future occasion.

D. T. FISH.



PHEASANT'S-EYE NARCISSUS (*N. POETICUS*) ON THE MOUNTAIN SLOPES ABOVE MONTREUX, GENEVA.
(From a photograph kindly sent by Mrs. Newman, Haslemere.)

any seeds in 1° more heat than is needful for healthy germination and this must follow. It is therefore the easiest thing in the world to render plants unnaturally tender, but experience proves that it is one of the most difficult problems growers have to contend with to restore the plants' natural hardiness. So difficult is this that it is seldom or never done. It may be added that the modes in general use for hardening off Sweet Peas and other plants before final planting out in the open air are often rough and ready. More or less suddenly a warm coddling regime is exchanged for full exposure to the erratic changes of our spring climate with a minimum of protection, and these seriously check and cripple growth, as all experienced growers have found out to their cost. Then as to the roots of Sweet Peas, the less they are disturbed by potting and transplanting the better.

I have long found that there are but two safe modes of protecting top growth among sweet and edible Peas with a minimum of future root injury and disturbance. Sow from three to five Sweet Peas in small pots, and when the seedlings are sufficiently large, plant them out bodily without root division or disturbance, pressing the fine soil firmly against the root balls.

than with this pot and turf nurturing. The secret of success consists in the fact that from first to last the roots are hardly disturbed, never destroyed. All the finest roots penetrating through and overlapping the turves are transferred bodily to the soil, and the masses are planted intact in the genial, warm soil, with a minimum of root disturbance. By thus planting the seed-beds, or through carefully transferring each strip of turf full and overflowing with roots, we reduce checks to growth to a minimum. But still the grower has to face his final and his most serious risk of injury from the transfer of his Sweet Peas from under glass into the open air.

The loss of vigour and of time, the checks as they are mostly called, are well nigh universal. No doubt more might often be done to prepare Sweet Peas and other plants to pass with greater safety from the inside or under glass to withstand the sudden changes of our early spring days and nights. Is the grower or the Sweet Pea one atom the richer, the stronger, the earlier, through all these elaborate efforts to convert a hardy annual into a tender one? Neither are benefited one jot. All the coddling, nine seasons out of ten, as our wayward Mays go, with the inevitable cold waves of frost between the 15th and

NARCISSUS POETICUS ABOVE MONTREUX, LAKE OF GENEVA.

THE profusion in which these grow must be seen to be believed, and when the sunset light begins to tint them, and the landscape round shines out clear and soft, with the rugged rock of the Dent de Jaman towering up in the background, it is a sight that can never be forgotten. Here and there are chalets for cattle in summer, now closed, but surrounded with Cherry trees in full blossom and great clumps of *Myosotis sylvatica*, such as we grow in our gardens. Amongst the Narcissus are Orchids and other flowers, but there seems hardly room for the grass, and Narcissus was being mown all round the hotel to feed the horses.

[The *N. poeticus* in these pastures is not only abundant but extremely various, for some flowers may be found as large and wide petalled as the best forms of *Ornatus*, while others are as small as the little *Verbanensis* of North Italy, and many have two flowers on one stem.—Eds.]

SOME PRETTY ANNUALS.

ONE of the oldest of hardy annuals is the Adonis-flower or Pheasant's-eye of catalogues, which produces its deep crimson, flat-petalled flowers in June and July; it is of dwarfish growth and decidedly attractive. *A. autumnalis*, the Red Morocco, has blossoms of an intense blood-red colour, with a black centre. This is an improved British plant, while the former is an exotic. The annual varieties of this genus are more showy than the perennial species.

We use the *Ageratums* much more as annuals than as perennials, for the seeds can be sown in spring, the plants put out for the summer, and then generally thrown away when their period of floral service is over. *A. conspicuum*, a white-flowered form, finds a place in some catalogues, as also *A. Lasseauxii*, rose-coloured; but the dwarf varieties of *A. mexicum* are decidedly the most popular. There are several of varying blue shades, such as *Ada Bowman*, *Blue Perfection*, one of the newest, and said to be a great improvement upon all others; *Imperial Dwarf*, *Little Dorrit* and its white counterpart; *luteum*, pale yellow; and *Swanley Blue*. Seeds sown in warmth in spring soon produce plants which simply need to be grown on and planted in the open after being hardened off.

The annual forms of *Agrostemma* (*Rose of Heaven*) are slender types, and not much grown now. *A. Coeli-rosa* is rose-coloured. There is an almost white variety and one named *fimbriata* or

nana, in which case the corollas have fringed edges. The seeds can be sown in the open ground in patches in April.

The Alonsoas are not nearly so much grown as formerly, but they deserve more attention than they receive. They can be occasionally met with at the Birmingham Botanical Gardens, for instance, cultivated in pots for greenhouse decoration, and there they are very effective. * *A. albiflora*, white, should be grown for house decoration, as it supplies bloom through the autumn and winter. *A. linifolia* is also known as *Roezli*; it produces very showy scarlet blossoms. So does one known as *grandiflora*, a probable seminal variety. One of the most popular is *A. Warscewiczii*, which has the most brilliant scarlet blossoms, and there is a bushy variety of it known as *compacta*. It is the general practice to treat the plants as biennials and increase the stock by means of cuttings taken in early spring and rooted in heat, or seedlings can be raised from seeds sown in March.

The Sweet Alyssum (*A. maritimum*), of a very dwarf and compact free blooming character, is much more useful than showy, growing rapidly, and coming into bloom very quickly; in fact, it has been known to shed its seeds and reproduce itself twice in a season, thus actually yielding three crops of bloom from an original sowing; *compactum* Little Gem and White Carpet are also varieties of almost prostrate growth. *Amaranthus* is a somewhat large group of annuals, and comprises: *Caudatus* (Love-lies-bleeding), *cruentus* (Prince's Feather); *bicolor* and its variegated varieties; *melancholicus ruber*, the well known copper-coloured leaved bedding plants; *salicifolius*, one of the handsomest, and *tricolor* with its numerous varieties. All the foregoing can be raised from seeds sown in warmth in early spring, the plants grown on and prepared for planting out at the end of May or early in June. They are fine weather plants, and should be planted in fairly light rich soil in an open sunny position, where they can be seen to the best advantage. Some of the best, such as *salicifolius* and the fine varieties of *tricolor*, make excellent subjects for pot culture.

Ammobium alatum, a New Holland Everlasting, has produced a large-flowered form known as *grandiflorum*, and they are seen to the best advantage when treated as biennials, the seeds sown in September, and the plants wintered in a cool greenhouse. Both are white flowered, and they are easy of culture.

The genus *Anagallis* supplies a few very pretty annuals, the large-flowered *grandiflora* supplying most of them, such as *coccinea*, scarlet; *cœrulea*, blue; *Eugenie*, light blue and white; *Napoleon III.*, blue; *lilacina*, lilac; and *carnea*, flesh-coloured. The seeds of these can be sown in a sunny spot in spring where they are to bloom, and if the soil be good these gaudy Pimpernels will be found quite attractive; the showiest are the blue and scarlet varieties.

Anchusa affinis and *A. capensis* are the only two annual forms generally grown; they are both blue-flowered, quite dwarf in growth, free and pretty. The seeds should be sown in sandy soil in spring, and raised in warmth.

R. DEAN.

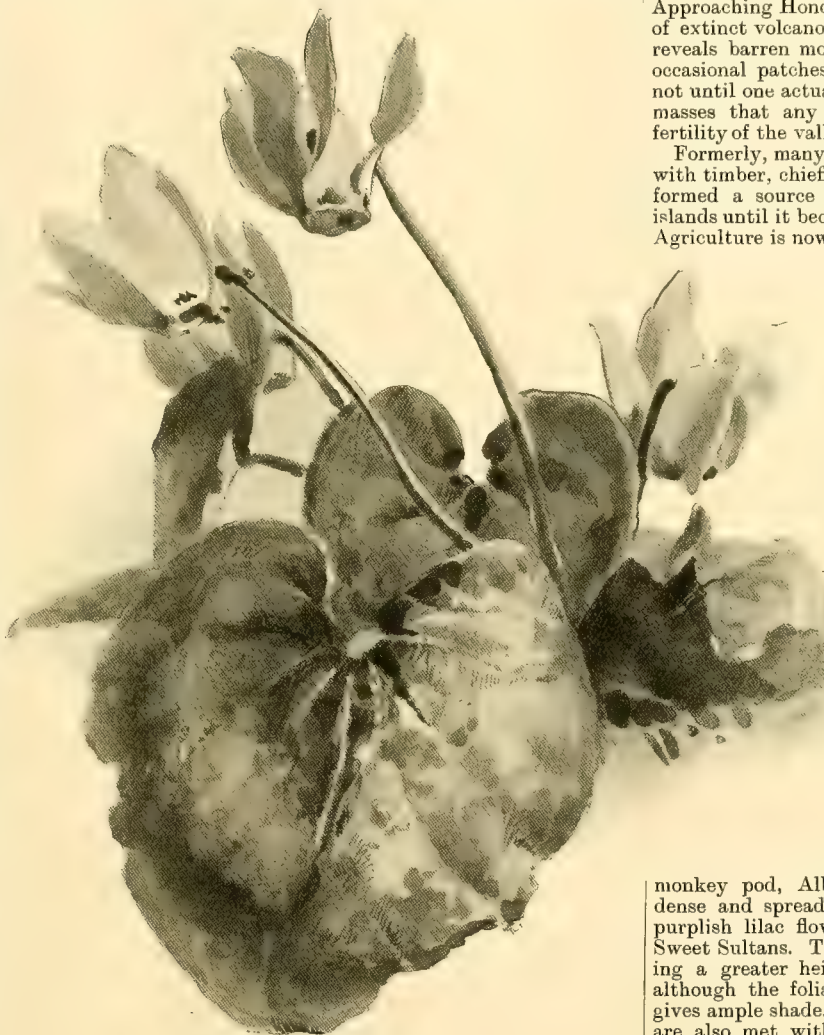
[As this is the time for sowing annuals out of doors these notes are opportune. There is a rich storehouse of good things in this race, and it is surprising that the finest kinds are not more grown, as they are easily raised and are very effective.—Eds.]

AN ARTIST'S NOTE-BOOK.

CYCLAMEN LIBANOTICUM.

HARDY Cyclamens are deservedly a popular class of plants, coming into flower at a time when few other things are in bloom. Therefore an addition to the spring flowering section, in the above plant, will be warmly welcomed, especially as it is so distinct and good.

C. libanoticum was introduced into this country in the year 1899, having been found with *C. ibericum* and *C. persicum* in the valleys of the Lebanon, at an elevation of from



CYCLAMEN LIBANOTICUM.

(From a drawing by H. G. Moon.)

2,600 feet to 4,500 feet. The rocky ground is of a chalky nature, and the plants are always found in shade, amongst the roots of shrubs and trees. The corms are large and scaly, and the large-shaped leaves, which have entire margins, are marked with a silver zone on the upper surface, the under surface being dark violet. The flowers are large for a hardy Cyclamen, having reflexed segments nearly an inch in length, and about one-third of an inch in width. They are sweetly scented, bright pale rose in colour, with a carmine blotch at the base. Judging from its behaviour so far, it appears to be very free in habit, producing an abundance of bloom in February and March. The specimen here illustrated was shown by

Messrs. Jackman and Son, at the Royal Horticultural Society's meeting in the second week in February. There is no doubt as to its hardiness, but it should always be planted where it will receive a certain amount of shade.

W. IRVING.

The Royal Gardens, Kew.

FOREIGN NOTES.

GARDENS, FIELDS, AND WILDS OF THE HAWAIIAN ISLANDS.

THE trans-Pacific tourist who spends only a few hours at Honolulu, while a steamer is discharging and receiving passengers and cargo, can get little idea of the fertility of the Hawaiian Islands. Approaching Honolulu one sees the blue outlines of extinct volcanoes, and, drawing nearer, the sun reveals barren mountains of crumbling lava, with occasional patches or fissures of vegetation. It is not until one actually travels among these volcanic masses that any conception of the marvellous fertility of the valleys which intersect them is had.

Formerly, many of these mountains were covered with timber, chiefly Sandalwood, the sale of which formed a source of revenue to the kings of the islands until it became exhausted. The Bureau of Agriculture is now making efforts to replant them.

Certain varieties of *Eucalyptus* and *Acacia* have been found most successful. The *Algaroba*, which was introduced about thirty years ago, is of great value for planting on arid lands, and on Oahu we find more of this tree than of all others combined. Its delicate pinnate foliage is always green, and in periods of extreme drought furnishes excellent fodder for cattle and horses, while its sweet seed-pods, which resemble wax-podded string Beans, and have the flavour of St. John's Bread, may be ground, and the Flour made into wholesome Bread for man.

The best shade tree in the vicinity of Honolulu is the

monkey pod, *Albizia bicolor*, a tree of very dense and spreading habit and bearing beautiful purplish lilac flowers, which remind one of giant Sweet Sultans. The *Tamarind* thrives here, attaining a greater height than the monkey pod, and although the foliage is much finer, it is dense and gives ample shade. Splendid specimens of *Banyan* are also met with, one of the best being in the grounds of the late Princess Kaiulani, and nearly overgrowing her beautiful residence.

There are several trees bearing remarkably showy flowers; among them *Casalpinia regia* becomes when in bloom a mass of flaming scarlet; *Casalpinia sepiaria* bears large deep yellow blossoms, and *Cassia fistula*, commonly called Golden Shower, bears enormous golden yellow flower clusters. The seed pods of these trees are usually from 15 inches to 18 inches in length.

The Royal Palm, *Oreodoxa regia*, is employed to line avenues. It grows about two-thirds as high as the Cocoa-nut, the trunk being perfectly perpendicular, while that of the Cocoa-nut is always bent. The Date Palm is similarly used, and affords more shade; an objection to it is the fact that the fruit when ripe drops freely and litters the roadways. A tree photographed near Honolulu had eight clusters of fruit, each of which would have filled a half bushel measure or more. The Dates are of fair quality, but as the climate suits them, the finest sorts should be introduced.

Caryota urens, known as the Wine or Fish-tail Palm, is extensively employed for landscape decoration. The specimens seen are usually about 30 feet in height, generally bearing two or more bunches of fruit. The erect, bipinnate leaves of this Palm are of light and graceful appearance, and form a pleasing contrast with the heavier foliage of other tall sorts. More than 150 varieties of Palms are now grown on the islands.

The little Otaheite Orange, which is now seen here in pots in florists' windows, attains in Oahu a height of 40 feet, and bears abundantly. Notwithstanding the fact that citrous fruits luxuriate on the islands, more than 5,000 dollars' worth of Lemons and Oranges are annually imported from California. Delicious Figs, much superior to those sold in California, are sold by native children on the roadsides at 5 cents a dozen. Bananas may be grown on all the islands. In the vicinity of Hilo they do particularly well, and there irrigation is unnecessary. Unfortunately, the varieties grown are not the best for market or export. The magnificent yellow Bananas which are brought to Boston from Golden Vale and other plantations in Jamaica are much superior. The best Jamaica variety of *Musa sapientum* should replace the small *M. Cavendishi* now grown. The islands would then be able to supply cities west of Chicago with such fruit as is received on the east coast from the West Indies, the distance by sea being about the same.

Cocoa-nuts may be grown on any of the islands near the coast. They receive little attention, however. The only extensive grove seen was near Waikiki in Oahu.

Guavas grow wild in all the islands, from the sea level to an altitude of about 3,000 feet. They are chiefly useful for preserves. The ground Cherry is found in abundance within the same limits, and at about 2,000 feet a red Raspberry (*Rubus Hawaiiensis*), of rather insipid flavour, bears profusely. Strawberries and Raspberries have been introduced, and yield fruit the year round at from 2,000 feet to 3,000 feet elevation.

The Papaw (*Carica Papaya*) is a very singular fruit, borne on a tree somewhat resembling the Castor-oil Plant. The fruit is very rich in Sugar, and is used to feed chickens and pigs. It contains a milky juice, which has the property of rendering tough meat or fish quite tender. Sometimes a piece of the fruit is boiled with tough chickens, making them tender and easily digested. Fresh meats and fish are similarly improved by being wrapped in the leaves of the Papaw for a few hours, and the natives make this a practice. The leaves of *Dracena lutea*, which is indigenous, take the place of wrapping-paper in the markets. In broiling fish the natives invariably place it between two of these leaves for the pleasant flavour which they impart. Formerly the natives made a distilled liquor from the roots of this *Dracena*; of recent years its manufacture has been prohibited by law, and the natives who were addicted to its use now take gin instead, with which it was almost identical in flavour and appearance.

The success of the Sugar planter has been detrimental to the development of other lines of agricultural industry. One finds on the islands Century Plants with leaves from 8 feet to 10 feet in height, yet the Sisal Plant, which is a variety of the Century Plant, is not grown. Cocoa, Olives, Mangos, Limes, Lemons, Oranges, Figs, and finer Grapes should become profitable crops for mountain slopes and other lands not adapted to Sugar cultivation. Progress in this direction can hardly be made, however, until better varieties of these fruits shall have been introduced. Most of the improved sorts needed could be obtained in Jamaica. When it is learned, however, that the Sugar plantations have yielded as high as 60 tons of cane per acre, giving when crushed 12 tons of Sugar, or more than double the average crop on the West Indies, and making possible annual dividends of from 50 to 75 per cent., it is not surprising that other branches of agriculture have been overlooked.

The most productive Sugar plantations of Oahu are reclaimed arid lands composed chiefly of pulverised lava, which were more or less occupied with *Opuntia truncata*. Dense masses of this Cactus are to be met with, each mass extending

over several acres and attaining a height of from 12 feet to 18 feet. The *Opuntias* on the dry lands and the Tree Ferns in the moist regions have been valuable agents in the formation of loam deposits.

On the beaches of Oahu the loose sands are frequently covered with the Ivy-like foliage and brilliant rosy red blossoms of *Ipomoea Turpethum*; a little farther back may be seen *Argemone grandiflora*, *Ipomoea Batatas*, and *I. insularis*, the last having beautiful light blue flowers of large size.

Lantana hybrida and *Acacia arabica* have become troublesome, weedy shrubs. Hundreds of acres are invested with these pests; the vast crater of the extinct volcano, Punch Bowl, overlooking Honolulu, is completely overrun by them.

Many beautiful wild shrubs are to be seen on the mountain slopes or in protected valleys, among which may be mentioned *Sesbania tomentosa*, *Gossypium tomentosum*, *Hibiscus arnottianus*, *H. tiliaceus*, and *H. youngianus*.

An enterprising Greek fruit dealer, named Camarinus, introduced the Smooth Cayenne Pineapple, intending to grow it for export. He sold his first crop in Honolulu for 75 cents each. He enlarged his plantation, and in addition to supplying the home market now does a profitable export business.

The food of the natives from their earliest history has consisted chiefly of fish and poi. Poi is made from the root and lower part of the stem of the *Caladium esculentum*, or Taro, which is boiled for half an hour, then placed in a wooden trough, and pounded to a fine paste with a stone pestle. It is interesting to watch the operation of poi-pounding. The operator holds the pestle in one hand, while the other is immersed in a pail of water at his side. After each stroke the base of the pestle is slapped with the wet hand, the moisture thus applied preventing the poi from sticking to it. Poi is of bluish appearance, and tastes somewhat like Apple sauce, although devoid of sweetness. The natives prefer it when somewhat fermented. Taro is a profitable crop, yielding usually about 300 dollars an acre. It requires partially submerged land.

Large tracts of swamp land to the south of Honolulu have been improved by the Chinese, and are now flourishing Rice fields; while the deeper mud holes have been planted with the pink Lotus, *Nelumbium speciosum*, the thick starchy roots of which they eat.

The vegetables found in the markets are mostly grown by the Chinese, and there are offered Soja Beans, Chinese Cabbages (which, by the way, is a vegetable that should be grown in the States), and oriental Cucumbers and Gourds, side by side with almost all the vegetables found in markets here, for even Potatoes and Corn may be grown at from 2,000 feet to 3,000 feet above the sea. Four-fifths of the arable land of the islands is situated on Hawaii, and this island, when encircled by the railway now in progress of building, and its harbour at Hilo improved, cannot fail to become of great importance.

Its lofty volcanoes pierce the clouds, causing ample rainfall, and producing the most luxuriant vegetation. In the Olaa district, famous for its fine Coffee, are found Tree Ferns from 30 feet to 40 feet in height, with fronds 15 feet in length, and 5 feet broad. In fact, the Tree Ferns have made the Coffee land, which is rich Fern peat; the planter in clearing it usually saves their trunks to form sidewalks and paths. The roadsides of the Olaa district are often lined with beautiful varieties of *Coleus* and *Brugmansia*, which have become wild.

Nephrolepis exaltata and several varieties of *Davallia* and *Gleichenia* form most of the undergrowth in the district between Hilo and Kilauea, while the forest comprises *Pandanus utilis*, varieties of *Alsophila*, *Cibotium*, and *Dicksonia*. Where trees occur they are usually invested with *Asplenium nitidum*, *Smilax Sandwicensis* or *Freyinetia arborea*, the last quickly choking them and causing their decay. A tree covered with *Freyinetia* is, however, a most beautiful object, the green foliage and crimson bracts being very striking in appearance.

Higher up there are vast forests of the beautiful crimson-flowered *Lehua* trees (*Metrosideros poly-*

morpha). Olaa should become a centre for the raising of Easter Lily bulbs. The even climate, with its copious rainfall and a soil composed of Fern peat overlying porous lava, and affording the most ample natural drainage, gives most favourable conditions for their growth. Then as the seasons are practically obliterated here, the cultivator may plant and arrange for a crop of mature bulbs in any month of the year he may desire. There would not be as much danger of blight here as in Bermuda. A trial lot has already been planted, and most encouraging reports of their success have been received.

As already stated, many handsome varieties of *Hibiscus* are indigenous to the islands, and among the most beautiful features of Honolulu are its magnificent hedges of *Hibiscus Rosa sinensis*. Another beautiful hedge plant is the *Phyllanthus tricolor*. Imagine one of the beautiful privet hedges in Newport suddenly changed to a rosy lilac colour, and some idea of the beauty of a *Phyllanthus* hedge may be had.

A very effective lawn bush is the so-called yellow Oleander (*Thevetia nereifolia*), with clear yellow trumpet-shaped flowers. The pink Oleander here attains a height of 30 feet, and produces flowers as large as hybrid Roses.

Flowers are seldom made into bouquets, as in the States; the natives string them in wreaths or leis, which are worn around the hat, over the shoulders, or about the waist. Carnations, yellow ginger, *Plumeria bicolor*, the scarlet seeds of the Screw Pine, and the crimson *Lehua* blossoms are thus employed. Among the natives a beautiful custom exists which it is hoped will not soon die out. When a person is about to make a journey, friends bring and present each two leis, both of which are accepted and worn until the train or boat starts, when one is returned with the last "aloha" (farewell) to the giver, and the other retained, thus providing a souvenir for each.—JOHN K. M. L. FARQUHAR, in "Transactions of the Massachusetts Horticultural Society."

Spring-flowering Shrubs.

(Continued from page 165.)

SHRUBS IN FLOWER IN MAY.

IF in April we had a wealth of variety, in May it is almost bewildering, and it is difficult to make a selection. During the first few days we have the early flowers of the DOUBLE WILD CHERRY or GEAN (*Prunus Avium*), and this is one of the glories of the Cambridge Botanic Gardens. Nothing, indeed, could surpass its profusion of beautifully double pure white flowers. All our rosaceous fruit trees are beautiful, and there is nothing more charming perhaps than the blossom of an Apple tree. I have just now in mind a tree of natural growth the lower branches of which bend low and make a delightful harmony of colour with the red and pink of the flowers and the green of the long grass. The double and single Hawthorns have already been alluded to, but to realise their beauty they must be seen. Among the species, *Crataegus glandulosa*, *C. Crus-galli*, the Cockspur Thorn, *C. Azarolus*, the Italian Medlar, and *C. tanacetifolia* may be mentioned, though none equal the Hawthorn of Britain in its numerous varieties. *C. tanacetifolia* is a very distinct tree with white flowers and large yellow fruit. Early in May we have the white *Rosa sericea*, interesting for its four-petalled flowers. On a wall *Ceanothus veitchianus* is interesting and pretty, with numerous dense clusters of bright blue flowers. *Xanthoceras sorbifolia*, with nearly white flowers, blooms freely on a wall, but apart from its pretty foliage it is, I think, much over-rated. This cannot be said of the *Syringas*, greatly valued as they are. The finest of all are no doubt the single and double varieties of the common *S. vulgaris*, which have been raised by M. Lemoine, who, indeed, has done much to provide our shrubberies with improved forms, in this and other genera. All the first-class nurserymen grow a good selection, and some—like Mr. Jannock, of Dersingham—make a speciality of



PYRUS SPECTABILIS AS A LAWN TREE.

the best kinds for forcing and retarding. A very fine kind I have is *C. chinensis*, a hybrid between *S. vulgaris* and *S. persica*. It forms a round shrub of denser habit than *S. vulgaris*, but much stiffer and better shaped than *S. persica*. One of the most distinct is the Himalayan *S. Emodi*, but it is, perhaps, not sufficiently fine, compared with the varieties of *S. vulgaris*, for general culture. The Laburnum comes with the Lilacs, and there is, perhaps, nothing of the same colour to equal the masses of golden flowers. One of the most interesting of the ornamental shrubs is the graft hybrid between the Laburnum and *Cytisus purpureus*, known as *Cytisus Adami*. It bears three kinds of flowers, which represent Laburnum, *Cytisus purpureus*, and the hybrid between them. This is an extraordinary kind, and its origin has been proved by Messrs. James Veitch and Sons in conjunction with the late Mr. Romanes, so well known in scientific circles. The Horse Chestnut is familiar to all Londoners through the long avenues of it at Hampton Court, and either in its single or double varieties it is one of the most magnificent of trees. *Pavia macrostachya*, however, is a very fine shrub, stoloniferous in habit, and bearing long spikes of white flowers. *Pavia flava* and *P. rubra*, with flowers of colour indicated by the name, are of much value as small trees in the garden.

Coming to *Deutzia* and *Philadelphus*, we are reminded again of the great work done for shrubs by Lemoine, who has raised hybrids which surpass the parents. All of them are comparatively recent. *Deutzia gracilis* and *D. scabra* and *D. scabra* fl.-pl. are small shrubs not to be neglected. The genus

PHILADELPHUS is out of our season except for the old Mock Orange *P. coronaria*, which, though a fine shrub, is not one of the best. In early May *Prunus sinensis* fl.-pl., already mentioned as on a wall, is

exceedingly beautiful in the open. In direct contrast to any of the foregoing is *Asimina triloba*, the North American Papaw, which has sombre flowers of brown colour. The tree at Cambridge no doubt is the finest of its kind in the country. Also a very fine tree, finer than any other I can hear of, is *Cercis Siliquastrum*, the Judas tree. It is very effective, with multitudes of rosy flowers, produced on wood of almost all ages. Not far from this grows *Mespilus Smithi*, a small tree with beautiful green leaves, upon which apparently are dotted a great number of large white flowers. *Cytisus andreaeanus* is one of the most popular of comparatively recent introductions. It is a rich maroon-coloured form of the common Broom, found in Normandy a few years ago. *Cytisus præcox*, an indispensable ally of the last, with innumerable flowers of pale yellow, borne on gracefully slender twigs, is a hybrid between *C. purgans* and *C. albus*. I do not find the origin of this plant on record, but I have heard that it originated with Wheeler, of Warminster, whose nursery, of a past day, must have been exceedingly rich

from the number of good plants that have been grown there.

Towards the end of the month *Rubus nutkanus*, well represented in THE GARDEN of January 26, is in beauty. *Spiræa van houtteana*, also white, is one of the best of its genus and valuable for forcing. *Solanum crispum* is the interesting old Potato tree, more familiar in Devon and Cornwall than elsewhere, and here requiring a wall. Of the *Jasminums*, *J. fruticans* is one of the good kinds, valuable in the south of Europe, where it is native, for its flowers, which yield perfume. *Coronilla Emerus*, brought from near Interlaken, proves very useful as a flowering shrub by a stream below trees.

June is the month of Roses, and they can scarcely be referred to; but the single *Rosa polyantha* has been specially handsome in its great arching wreaths of flowers, and so fine a subject as *Rosa rugosa* must be mentioned as flowering in May. Those who have visited Wisley Wood, the charming garden belonging to Mr. G. F. Wilson, may remember what fine hedges it makes.

One of the best of the *Spiræas* is *S. prunifolia* fl.-pl., long a favourite in gardens, but of which no one appears to have seen the single kind. Visitors to China and Japan might do well to enquire for it.

Two of the native Honeysuckles (*Lonicera Caprifolium* and *L. Xylosteum*) come into flower this month, and the former is a good garden plant, allied to the common Woodbine. Beautiful relations are the Chinese and Japanese species of *Diervilla*, a genus better known as *Weigela*. *D. rosea* is a good shrub from China, and *D. grandiflora*, a native of Japan, in several varieties, from white to red, is one of the best shrubs in any garden. *Viburnum plicatum* is a handsome Guelder Rose. The common Guelder Rose (*Viburnum Opulus*) is also good, and on the whole unsurpassed. In the

Fens, where the fertile form is native, quantities of scarlet fruit are produced. *V. oxycoccus*, I notice, is referred to this species, but in the Cambridge Botanic Gardens it is a larger plant, with the fruit yellow on the shady side. *Buddleia globosa* is a fine shrub, with golden flower-heads. It is, unfortunately, rather tender, but against a shed where it can be protected it is almost as good as in Devon or Cornwall. In that part of the country *Fabiana imbricata*, a solanaceous plant, with white Heath-like flowers, is very graceful and pretty. In Cambridge it is a success against a wall, and is killed only at long intervals. *Hydrangea hortensis* is very fine in mild parts of the country, but is hardly suitable for cold districts. *Wistaria chinensis* is, perhaps, the last of great beauty that can be mentioned, and it is almost too well known to need description.

Pyrus spectabilis now illustrated was referred to in my last notes.

In conclusion, it should be mentioned that most of the foregoing have been alluded to once only, according to the earliest time of coming into flower, and many, of course, last in bloom until some considerable time after. In most cases the year 1896 has been taken as a guide.

R. IRWIN LYNCH.

Botanic Gardens, Cambridge.

GARDENING OF THE WEEK.

FLOWER GARDEN.

TUBEROUS BEGONIAS.

FEW bedding plants are brighter or more effective than tuberous Begonias, and they are especially valuable in a wet year, when Geraniums become much washed, as rain only seems to intensify their colours and add to their floriferousness. For bedding purposes I consider it a mistake to select flowers of very high quality. The more necessary points are brightness of colour, an erect habit, and flower stems long enough to come well above the leaves. The selection of plants of this type takes time, but should be persisted in until sufficient stock is acquired. Now and then one finds a Begonia tuber that appears to divide itself naturally into small offsets, and when this habit is combined with other good qualities there is little trouble in keeping up a stock. Some years ago I selected a plant of this type, and in a few years' time had several thousands of it, and while I held the stock it never showed signs of deterioration, as many tuberous Begonias will do. The present is a good time to start the tubers. If increase of stock is necessary it will be found that many tubers may be divided. After division the cut surfaces should be dressed with lime or charcoal and put on one side to dry for a day. For planting out I prefer to start and grow the tubers in boxes, as they then seem to grow better when moved to the beds than they do when turned out of pots. An inch or so of Mushroom bed manure on the bottom of the boxes encourages root action, and the tubers should be planted at a sufficient distance apart to avoid crowding. Any sandy soil will do for them. To begin with, little water must be given, and they will be grateful for a little heat until it is safe to put them in a cold frame. As the Begonia is easily injured by frost and is best planted before it has made much top growth, I prefer a late start, as it will still have about nine weeks in which to make growth before it can be safely planted.

CANNAS.

Tufts of the hardiest and freest-flowering Cannas should be divided, potted up singly, and started in gentle heat. These, like the Begonias, should not be hurried into growth, as they have ample time and are best planted before the pots are crammed with roots. Cannas are noble subjects when really well grown, and to this end the beds or plots for them must be thoroughly well manured.

FLOWERING SHRUBS.

Among these there are some that may require pruning, not only to keep them shapely but also

to develop strong flowering growths. Take, for instance, *Hydrangea paniculata*. Allowed to grow in bush form and unpruned its flower heads get less and less, until they have dwindled to quite a small size and the majority of the shoots become flowerless. On the other hand, plants cut hard back yearly and reduced to a few shoots give enormous panicles. Again, most of the Brooms and some of the Gorses die out if left unpruned for many years. These, too, should be cut to the ground before their stems get big, and this hard cutting will rejuvenate them if not left until the shrubs are very old. J. C. TALLACK.

Shipley Hall Gardens, Derby.

FRUIT GARDEN.

PROTECTING FRUIT TREES ON OPEN WALLS.

THERE is no question whatever but that diverse methods of culture have produced excellent crops of fruit, and, as regards protection of trees, I have seen trees not given any protection whatever bear finer crops than those given every attention. A great deal depends upon the locality and position of the garden; on the other hand, I am not in favour of coddling the trees, if the term can be applied, and do not recommend thick woollen covers that exclude light and sun. With glass copings much covering is not necessary, but here again I am adverse to fixed glass copings. I had a long wall once covered with a fixed 3-foot coping and none too much labour, and I never had so much red spider to contend with in my life, and the trees were anything but healthy. At Syon we use Bamboo poles fixed from the top of the wall and 3 feet from the base. This allows free access to the trees. Over these are stretched double square mesh, closely woven nets. Apricots are the first to need protection, and these trees should now be covered, as they are usually pinned and nailed or tied earlier in the season.

PEACHES AND NECTARINES.

Our trees up till now have not been placed in position; quite late enough I am aware many readers will say, but I leave the fruiting shoots—that is, last year's wood—as long as possible before nailing in. I strongly recommend late tying or nailing of these trees, and not protecting till the flowers show colour freely. Very little pruning will be needed with trees gone over after the fruit was gathered, as then the old fruiting wood was taken out, leaving space for the new. With the Peach and Nectarine it should be borne in mind much may be done by disbudding when the fruits are set. As regards protection the same advice holds good as given for Apricots above.

CHERRIES AND PLUMS.

In many gardens it is necessary on open walls to cover both Cherries and Plums, not so much from frost as from birds. The latter are particularly fond of the Cherry. The Cherry, though it blossoms early, if covered too much often loses the fruits, and the trees are so soon infested with aphids. To obtain as much warmth from the wall as possible it is well to keep the trees spurred in close. Another point worth noting is that cold east winds are bad for these fruits, so that if some slight protection is given the effects of the wind are minimised.

OTHER HARDY FRUIT.

Raspberry canes should be pruned, tied, and the quarters made neat. Three canes, if strong, is ample at one stool, and autumn fruiting varieties may now be cut down, mulching both kinds, if food can be spared, with a good dressing of decayed manure. Nuts and Filberts should now have been pruned, suckers removed, and, in the case of young trees, the growths should be shaped, thinning out those not required for leaders and shortening others left. Such fruits as the Logan and Blackberry should have weak growths cut out, strong canes shortened and secured to their supports, the culture being somewhat similar to Raspberries. Too many fruiting canes should not be left at a stool, the tops shortened of the fruiting canes, and any recently planted should get a good mulch of manure. G. WYTHES.

Syon House Gardens, Brentford.

INDOOR GARDEN.

CROTONS.

THESE having been "ringed" and treated as directed in a former note, may now be severed from the plant and left to look after themselves. Small pots corresponding to the amount of root mass should be chosen, and as so much care has hitherto been taken to ensure success nothing to frustrate that object should be allowed. Clean pots, abundant clean drainage, and a light soil of a sandy nature, which has been previously well warmed through, must be afforded. As the plants are placed in the pots two neat sticks must be put in at either side with a piece of raffia to keep the foliage in an erect position, as at this stage leaves if not attended to get bruised and unshapely; besides it economises space in the propagating quarters, a point in itself not to be ignored. The foliage should previous to potting be well sponged over with soft rain water; this may not seem necessary, but it opens the pores and enables the leaves to inhale sustenance from the atmosphere at a time when root action is partly inactive. *Dracænas* should be similarly treated.

GLOXINIAS.

The main batch may be transferred to their flowering pots, and a compost of good loam in two parts, peat one part, and the remaining part made up in equal quantities of sand and leaf-soil afforded. A dash of soot and dissolved bones is of advantage, especially if the loam is not of the very best quality. Stand in a warm house in a position near the light, but do not water at the root for quite a week after potting. Seedlings will as they grow require plenty of room to expand, and as soon as large enough should be put into 2½-inch pots in a light soil. The same remarks apply to *Begonias*. These will also be forging ahead, for after they are once handled it is surprising how soon this subject develops into a plant. Plenty of moisture in the atmosphere and a fairly high temperature are most essential.

DEUTZIA GRACILIS.

As this well-known subject comes into the houses from the cold frames it is well to report any that are in need of this, as it is not advisable to disturb the roots when once the plants have fairly started into growth. A rich compost of a friable nature must here be aimed at, and as the plants are likely to go on for more than one season without again being disturbed drainage should be liberal and carefully laid. Those which have been forced should have the old wood cut out back to the base shoot, which, if encouraged, will make a growth of from 1½ feet to 2 feet in the coming season, and it is these that are useful when cutting time comes round again.

AZALEAS.

Remove all exhausted flowers from these as they come out of the flowering quarters and well wash the foliage. Soil should be kept in readiness, and as each batch is dealt with they should be potted up as they are put into the growing quarters, which in most private gardens are Peach houses and vineries. Sow a little seed of Cockscomb, White Egg Plant, *Celosia*, *Balsam*, *Globe Amaranth*, and *Solanum*. J. F. McLEOD.

Dover House Gardens, Roehampton.

KITCHEN GARDEN.

CUCUMBER PLANTS.

IN the early house these will now be in full bearing, and should receive a liberal supply of weak liquid manure at a temperature of 70°; there is no danger of applying this stimulant too often, providing the plants are growing freely and the manure is not too strong. Frequent top-dressings will also be necessary to keep the plants in a growing state. The compost for top-dressing may consist of loam and stable manure in equal parts, and should be mixed a few days before being used. It is better to top-dress frequently than to cover up the young roots deeply at one time; remove all old leaves to make room for young growth, which should be tied in and pinched at the second joint past the young fruit, the leading shoots being allowed to run to

the top of the trellis without stopping. Give a night temperature of 75°, with an increase of 15° by day with sun heat; sow seeds of some approved variety for succession; nothing is better than All the Year Round for flat pits in summer, and Every Day for growing in houses.

TOMATOES

in the early house will have set sufficient fruits by this time, and should have abundance of manure water to hasten their development. Keep a night temperature of 65° and shut the house up early, allowing the temperature to rise to 80° by sun heat after closing time. Pinch out all side shoots, and keep the bunches of fruit tied up to the trellis to save unduly bending the stems. Pot on succession plants and confine them to single stems, where they will have plenty of light and air. Pot on young seedlings as soon as ready, and keep near the glass in a cool pit for planting outside in May. Remove the covering from *Globe Artichokes*, and make new plantations where necessary in well-prepared soil 5 feet from plant to plant. Side shoots are preferable to seedlings, there being greater certainty of having only the best variety. A plantation of

EARLY POTATOES

may now be made with comparative safety where the ground has been enriched for the previous crop. No manure will be necessary, but on the other hand, if it is of a poor nature, a dressing of stable manure will greatly benefit the crop, especially early varieties, which are generally off the ground before disease makes its appearance. The cultivator must be guided as to distance apart by the habit of the varieties chosen for planting; *Veitch's Improved*, *Ashleaf*, *Sharpe's Victor*, *Sutton's Regent*, and *English Beauty* are very reliable sorts, and may be planted in rows 2 feet apart. Give abundance of air to Potatoes in heated pits, so that they may not become drawn, and see that they do not suffer from want of water. Radishes may now be sown in some sheltered corner of the garden, where they can be protected from birds and cold weather by a covering of long litter. *Wood's Early Frame*, *Extra Early Olive*, and *Red and White Turnip Radish* are the best for sowing now. A sowing of *Lettuce* may also be made in the open. *Early Paris Market* is one of the best to come into use early. *Veitch's Perfect Gem* and *Sutton's Mammoth White Cos* are also good varieties for sowing now. JOHN DUNN.

Royal Kitchen Gardens, Windsor.

THE KITCHEN GARDEN.

PLANTING POTATOES.

BY about the middle of this month (March), if the ground has become dry enough to bear walking upon, which is somewhat doubtful if the present weather continues much longer, planting of seed Potatoes should be commenced. Early planting, as in December, January, or February, is not advisable as there is always the risk of damage from frosts, and the crop will be no earlier than if sown in March, providing the ground be well manured, deeply dug, and care taken. If the ground has been thrown up in ridges during the winter, as it should be if at all possible, the easiest way of planting is to place the Potatoes at the proper distances apart in the furrows and then split the ridges with a spade and throw the earth into the furrows. This ensures loose ground around the seed, without which a heavy crop cannot be looked for.

If, however, the ground has been simply dug over, trenched, or bastard-trenched, not simply turned over one spade deep, the usual plan is to open a shallow trench about 6 inches deep, lay the Potatoes in it, and fill the trench up again, or else to dibble the seed in about the same depth. In the latter case, should the soil be stiff and heavy, there is the chance that the Potatoes may become rotten through the retention of water in the hole. If, however, the soil be fairly light and well drained, this plan may be followed. A better

method than either is to take out a shallow trench, say, 4 inches to 6 inches deep, and then dibble in the seed along the centre of it. The ridges on either side give protection from the frost and render the earthing up more easy. If a handful of the ashes of burnt vegetable refuse or wood ashes, if it can be spared, be scattered over the Potatoes at the time of sowing, the crop will not only be increased in quantity, and the chance of disease reduced to a minimum, but the quality of the Potatoes will be greatly improved, the ashes appearing to make them floury. The best sorts for early planting are the Beauty of Hebron and Early Rose, but endeavour to obtain English-grown seed of the latter variety, as there is a great deal imported from Germany, which is inferior to the home-grown kind.

Sutton, Surrey.

PERCY LONGHURST.

THE FAMOUS MAZE AT HATFIELD.

THE maze at Hatfield is formed of common Yew hedges, with slightly slanting sides, flat on the top, and kept in shape by annual clipping in the month of March or April. It is oblong in shape, 58 yards by 36 yards, and hedges 6 feet to 6 feet 6 inches between, measuring from centre to centre, which allows about 3 feet diameter of hedges at base, and the same width for paths. With the exception of the greater part of the outer hedge, it was replanted in the year 1892 in as careful a way as possible. The old hedges were grubbed up and burned, the ground trenched 2 feet deep, and drained from 2 feet to 3 feet 6 inches deep.

New loam to the depth of 1 foot was added to the whole surface. Before putting on the loam the ground was well prepared, and made highest in the centre of the plot, with a fall to the sides, so that water cannot remain on any part of the surface. The young trees were 2½ feet high when planted, and have succeeded well.

They now form complete hedges about 6 feet high, with 6 inches more to grow before they reach the desired height. From the time they were established annual clipping of the tops has been carried on in the case of the stronger trees so as to encourage a dense bottom growth.

The old hedges that were done away with were planted in the early part of last century, their unsatisfactory state being brought about by poor, wet, stagnant ground in a low situation, much lower than the surrounding ground generally, and made, so I should say, from taking out clay for brick-making at some earlier period—perhaps when Hatfield House was built, now nearly 300 years ago, or before that date. My reason for thinking so is that when digging the drains, and at other times when excavating in that part, I have found the ground permeated with ballast. The maze is situated about 100 yards due east of Hatfield House. Agricultural drain pipes 4 inches in diameter were used for draining, and covered to the depth of 9 inches with brick rubble, and 6-inch pipes were used for the main drain.

G. NORMAN.

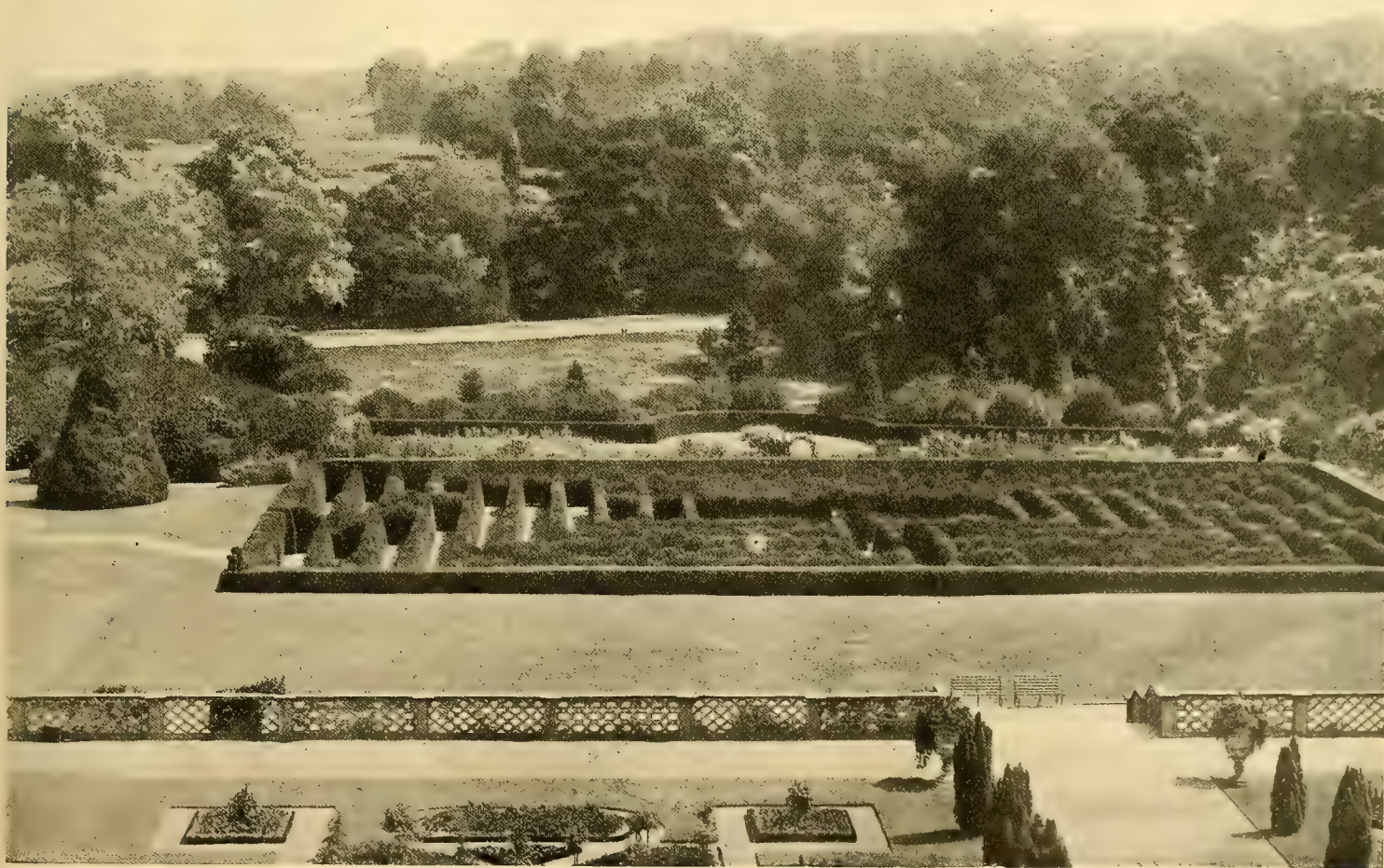
The Gardens, Hatfield House, Herts.

KEEPSAKE GARDENS.

BESIDES Remembrance Gardens, into which tears have fallen, and Friendship Gardens, where every flower has been a gift, there is yet another kind of garden whose annals are still unwritten. We may call them Keepsake Gardens. In one sense these, too, are gardens of friendship and remembrance; but they are something more. They have a human interest beyond and above the outward seeming, and in time they make a kind of log or picture-book, which always grows and grows, keeping a record of the scenes, the places, and the people we have met. They are gardens within a garden, and gather by slow degrees, as scrap and log-books should, to be of any value.

There is no way of explaining so good as walking round one's own garden and seeing what is there. Here is a bank devoted entirely to Periwinkles. I cannot give the botanical names, but there are three kinds of them. One has a large wide open blossom of that azure sea-and-sky tint we call blue; the leaves are large, of a dark and glossy green. Another is much more of a creeper, and the flowers and leaves a great deal smaller. Lastly, there is a white Periwinkle, the rarest, if not the prettiest of all. Nothing but a bank of Periwinkles—such a common little flower, but how much more to me!

They all came from a Thames valley garden, gathered three decades ago. Whether their ancestors survive or not, these, their descendants, must have forgotten all about them by this time, or that they ever lived in a wider



THE MAZE AT HATFIELD HOUSE, AS SEEN FROM THE EAST FRONT.

place, where they could hear the pleasant river rushing by. Everything has changed since then, except the flowers. They open their blue eyes year by year, just as they used to do in the Home Garden so many years ago, and each one still holds the same surprising treasure within its cup—a tiny fairy broom, for little fingers to find. These are keepsake flowers that cannot be had for buying.

Every one of our great blue Corn-bottles is a keepsake flower too, though they are not the gifts of friends, unless the gardener at the hostel to which his garden belongs will let me call him so. This is a seaside garden, and must be a hundred years older than the house at least, for the trees tell us so, and they cannot mislead. The garden runs out right on to the common by the sea, but there are shrubs to shelter from the wind, and in June you can hardly smell the salt in the air because of the sweetness of Pinks, Roses, and Lavender. When our Corn-bottles bloom we are conscious of more than Corn-bottles; they recall the fresh sea smell and the scent of countless flowers.

Our Forget-me-nots are mostly from some much-loved and once-frequented river bank, but have been supplemented so often that we cannot be certain whether any of the first family are left, but we hope so. It is strange so many keepsake flowers are blue, but not so strange perhaps when one remembers that blue is the colour that tells of faith and fidelity. Another corner of our garden belongs to the Fritillary, strangest and most quaintly kirtled of all the flowers of the field.

This is a Remembrance Garden. Memory brings back the day when the frail things were unpacked. They came lying ever so comfortably in cool green grass at the bottom of a rude rush basket, just as they were found in the low-lying Oxford meadows. I am afraid they were moved at a wrong time, but there is no accounting for the vagaries of flowers; they put up with it contentedly, and soon settled down in their new home.

"That which is firm doth flit and fall away,
And that is flitting doth abide and stay."

All we possess of rock garden plants are keepsakes—never a one was bought. There are Sedums and Saxifrages, and many things I hope to get named by and bye. "One gathers where another has strewed" sometimes, and the lovely rockery to which I owe mine was an inheritance, not a creation, of the owner, so that he hardly knew the value of his treasures. The giving of my share was quite unstudied. This was the way of it. A saunter round a rocky garden on a sunny afternoon in June. Here a little, there a little, is gathered and given, just to see how many kinds there are, "not to plant—you must do that when the autumn comes." Not even a basket to hold them—it is only a handful, but they are all taken home and planted then and there; a little rootlet has come by happy chance, and, wind and weather being kind, they one and all seize promptly on the ground and grow. It is the most delightful system I know of, these chance haphazard plantings, and it is seldom that success is wanting to the brave.

It was just after the same fashion my Dartmouth garden grew, and the white Stonecrop from Berryhead (our Stonecrop was all yellow), and the Hops from a dell in a Warwickshire garden (where the gardener said, "No use trying to move them, lady"). Most Hop-bines talk to us of the Kentish Hop-fields and the heaped-up oast-house, but ours only remind us of old friends, which after all is best. It is, indeed, clear to me that very little pieces of plants move the best, otherwise there would be no accounting for our great good luck with

them; nor do they mind being kept in tumblers for a time, or even soured in water-jugs, or anything that comes first. They flourish where the big bought plants die down, and have after all to return to small things, like scholars who have been brought too forward in their lessons and are put back to the beginning. Last, and newest of all, is the little plot we call the "Miners' Garden," for which the working folk in a far north mining village are responsible. Miners are like sailors in the way they love their gardens. There is this much in common between the men who go down to the sea in ships and those who "occupy their business" in the depths of the earth; to neither of them is given the daily sight of the fair hillside, the fragrance of the hayfield, the sweet breath of the cowslip-scented air, and thus it is our sailors and miners learn to love what they have not so much more than what they have, as is the way of human life, be it high or low. Miners certainly make capital gardeners. It is pleasant to see them enjoying the few daylight hours they get, each busy with his own small garden patch. From some of these, beside the cottage doors, were culled the plants now growing in our "Miners' Garden." Quaintly enough, one of the prettiest was itself a "keepsake flower" brought by a miner's wife from her own far distant home. It was a variegated Arabis, the only one to be seen anywhere else in the village, so she was justly proud of it.

I must not write much more about the Keepsake Gardens, only just a line about the Ferns, which always have so many tales to tell of adventures in autumn holidays and quests on moor and mountain, and a passing peep must be given to the herb border, so much enriched of late by gifts from an "Unknown Friend."

This is how the garden grows. Mary's, with her "silver bells and cockle shells," could not be fuller. As one's pen runs on, and thoughts come thick and fast, it is plain that there is no part of my garden, nor of any cared-for, lived-in garden, that can be empty of keepsakes and memories. Gardens have, in fact, an inner life, as a body has a soul, and it is made up of the loves and fancies and hopes and recollections of a lifetime. As the life is more than meat, and the body than raiment, so is this spiritual part of our gardens the most precious. It is invisible, but undying, and to each one it is different, even as our own souls differ. These thoughts are hard to frame and phrase, but some there are who will understand, and for such these words are written. F. A. B.

GARDEN DESTROYERS.

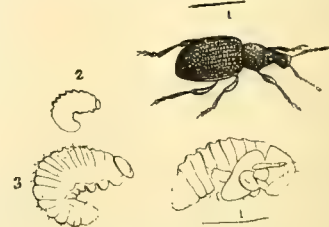
BLACK VINE WEEVIL

YOUR correspondent, Mr. T. Coomber, in THE GARDEN of March 9, draws attention to the black vine weevil (*Otiorhynchus sulcatus*), which, as he very truly says, is "an enemy of the vine."

As this is the time of year when this insect is very destructive, both as a grub and also as a weevil, I thought it would not be inappropriate to give a figure of this insect. As the weevil is seldom, if ever, seen during the day many persons whose plants suffer much from its attacks are quite ignorant as to the identity of the culprit, and have no idea what the insect looks like. As a weevil it attacks the foliage and shoots of various plants besides Vines, such as Ferns, Roses, Peaches, &c., hiding during the day so cleverly that it is very difficult to find them. I was staying once with a relative who had two Vines in a small greenhouse.

One morning the gardener showed me two shoots of one of the Vines which he had picked up in the house, and could not make out what could have broken them off, as no cats or birds had access to the house during the night. I at once suggested that this beetle was the offender, and told him to look under anything where it could have hidden, but the search proved unsuccessful. The Vines were planted in the border outside the house, and were led inside through a hole in the brickwork, the space between the stem and the sides of the hole being filled with straw, which I asked the gardener to remove, and on carefully looking over it two of these weevils were found, to the great delight of the searcher, who was fast losing faith in my views. The best time for looking for the weevils is, as Mr. Coomber does, at night, but it is safer to put a white cloth under the plant in the course of the day, so that if the beetles fall off, as they will often do when a bright light is thrown upon them, they may easily be found. On any alarm they fold their limbs together and drop to the ground, where they remain perfectly still for some time as if dead. Giving the plant a smart shake or jarring tap will often bring them down.

In the case of plants in pots it is better to lay them on their sides, so that if the insects fall they should not drop on to the earth in the pot and so be lost. Small bundles of dry moss or hay tied to the stems of the plants or laid on the soil in pots will provide excellent hiding places for the weevils. They should be examined every morning over a sheet of paper and the insects picked out. The grubs are even more destructive than the beetles, as they feed on the roots of many kinds of plants. Among their chief favourites are Vines, Ferns,



BLACK VINE WEEVIL.

1. Black Vine Weevil. 2. Grub nat. size.
3. Grub enlarged. 4. Chrysalis, enlarged.

so much of their virtue in passing through the soil that they would not affect the insects until the soil was absolutely saturated with them, which would be injurious to the plants, so that the only way of dealing with them is by picking them out from among the roots. In outdoor culture the ground under the bushes in May or June may with advantage be dressed with lime, soot, sand, fine ashes, or sawdust soaked in paraffin oil or gas lime; these dressings will prevent the weevils from hiding in the soil or from getting to the roots to lay their eggs. They may be caught by shaking the Raspberry canes over an open umbrella or a piece of newly-tarred or painted canvas stretched over a light frame after dark.

There are two other species belonging to this genus that have just the same habits and mode of life as the black vine weevil, the clay-coloured weevil (*O. picipes*) and the red-legged weevil (*O. tenebrioides*). The former is often found under exactly the same circumstances as the black vine weevil, but it is of a light brown colour, and not more than one-fourth of an inch in length. The red-legged weevil is considerably larger than either of the other species, and is not so common; it more usually attacks plants grown out of doors. The black vine weevil, of which a figure is given, is black, with small brownish tufts of short brown hairs sprinkled over the wing cases, and is nearly half an inch in length. The grubs are of a dirty white colour, with reddish brown heads, and are fleshy, much wrinkled, and sparingly covered with stiff brownish hairs. The grubs of the other species are so like them that it is very difficult to distinguish them apart. The females lay their

eggs early in the summer, and the grubs are hatched in August, and feed on the roots of plants until the spring, when they become chrysalides, soon after which the beetles may be found, the time varying very much according to the temperature. In greenhouses they may be found much earlier than out of doors.

G. S. S.

THE FRUIT GARDEN.

THE NECTARINE.

THE Nectarine requires much the same treatment as the Peach as regards planting, soil, position, training, disbudding, feeding, troubles from insect pests, and forcing of fruits under glass, so that it will be seen there is not much to note other than varieties and special details.

Planting is best done from October to Christmas, the earlier the better, and in our variable climate the best possible position should be given to the trees, as many beginners who have succeeded with the Peach have failed with the Nectarine, as the latter in a wet summer have not matured the fruit when grown at all thick and disbudding has been overlooked. One of the great troubles with this fruit is that in heavy wet soils the skin of the fruit cracks before ripening, with the result the fruits decay and are useless. This points out the great need of ample drainage in the soil at planting. Now, some soils such as are on gravel, need no drainage whatever; indeed, in the latter the trees from June to September often suffer from want of moisture at the roots, as both the Peach and Nectarine need ample moisture at the time named, as they are perfecting their fruits, making or building up the fruiting wood for another season, and there is a great demand upon the trees at the season named. In heavy soils the trees suffer most at other periods of the year not named, hence the need of drainage. In all cases the roots of these fruits should be near the surface. By this I mean should be within a foot or less, the nearer the better if well supplied with food. The best results in these trees are secured by feeding in the way of liberal top-dressings during growth to support the small fibrous roots. This feeding prevents the large thicker roots going too deep in search of food. If the Peach or Nectarine roots are too deep there is a tendency to gross wood and an absence of good fruiting wood. The buds drop and the fruit crop is nil; indeed, many excellent Peach growers resort to lifting their trees every third or fourth year to keep them free of gross wood and to have the roots nearer the surface. This points out the necessity of careful planting and preparation of soils more with regard to the Nectarine than to the Peach. The Nectarine is later in ripening, more subject to cracking or splitting, and it is more important to have the roots near the surface and to give sufficient food and moisture to keep them active.

Advice as to foods may not be out of place, as beginners are often at a loss to understand the terms employed, and so far I have found no food superior to liquid manure from stables, used in moderation. I am aware this is not always obtainable and a good substitute is cow manure used as a top-dressing from May to August. This, well watered in twice a week in dry weather, will build up healthy foliage and fruit. Another good food is a light dressing of nitrates once a fortnight, well watered in, and bone-meal, say one quarter to three parts of soil, used as a surface dressing early in the year.

There are other foods that may be used to advantage, but far better apply them in moderation and more frequently internally than in large quantities. It is always a safe plan to thoroughly soak the borders when giving artificial fertilisers, and with trees growing at all gross do not feed but lift early in the autumn. The middle of October is a good time, and cut the strong roots, replanting nearer the surface, using those materials in the soil that are conducive to healthy

growth. Stable manures are not needed. These trees in soil prepared as advised are much better without gross feeders, as at all times there is a tendency to the production of too much wood. Food is best given from the surface, as the trees need it, that is, when they are a good size and bearing freely. I would much rather give decayed stable manure in the form of a mulch in the summer, but even then it needs some care, as it is not wise to bury the roots to prevent the sun's rays warming the surface soil. It is far better to mulch twice or even three times from the end of May until September, than give one heavy dressing at the earlier period noted. In my own case we use any light material as a mulch, such as spent Mushroom soil, and rely on food in the way of liquids as advised above, and young trees the first two years will not require much food but ample moisture.

VARIETIES.

Some fruit catalogues give the names of two dozen kinds. A few of these stand out so conspicuously that there can be no question as to their merits. The well-known Sawbridgeworth firm of fruit growers, who have given us so many beautiful fruits, both of Peaches and Nectarines, have recently given us a good kind in their 'Early Rivers'. This is an immense gain to growers who have no glass, as it is ripe a fortnight earlier than the earliest of the older kinds, and, in addition to earliness, is a beautiful large fruit of splendid quality, colour, and shape, and no one need hesitate to plant it for first supplies. Next to this comes Lord Napier, doubtless the best general Nectarine under cultivation, as it ripens well where others fail, but even this needs good culture, especially in a wet season, and a south wall. Elruge is a hardy fruit and of good quality, but a smaller sort than Lord Napier; and other kinds are Humboldt, a large yellow-fleshed variety, a little later than Napier, and not such a good grower. For later use Pine-apple, also yellow-fleshed, is good; indeed, I prefer this to Humboldt, but it is later. In favourable soils and localities such kinds as Spencer, a beautiful rich large late variety, and Newton, also very late, could well be added, the above being trustworthy. For glass none are superior to Cardinal, a beautiful early fruit, and a new introduction. This is followed by the 'Early Rivers' and Lord Napier, and the two cannot be excelled for later supplies. Any of those noted above, such as Humboldt, Pine-apple, Newton, and Spencer are excellent; for mid-season under glass, Pitmaston Orange, Elruge, and Dryden are good, but these do not approach Napier in size, and it is an easy matter to have successions of the last-named, as small Nectarines are not profitable. Such kinds as advised above are good.

G. WYTHES.

RIVIERA NOTES.

Galanthus Ikarie has been so fine here I wonder more mention of it has not been made. Its broad, rich green leaves and splendid bells, with well-shaped petals, give it quite a character of its own. It is late flowering and apparently very freely increased, altogether a very valuable addition to Snowdrops.

Violet Mrs. Astor.—This promises to displace all other varieties of the Parma Violet. It is much harder than any other, and is free in growth. With its huge double rosettes of deep lilac flowers it at once attracts the eye, and on nearer approach delights the nose. It is among Neapolitan Violets what Princess of Wales is among the single Purple Violets. It can easily be distinguished when not in flower by the marked purple colouring of the back of the leaf. It needs the runners checking to develop its finest qualities, but it will flower freely even when neglected.

Violet Mme. Millet is another variety but little known or grown I fancy. It is of very great beauty and unique in its red-mauve colouring. Unfortunately, it is as tender as Mrs. Astor is hardy, and its habit is of the most straggling. Still, when grown in rich light soil, properly pinched in summer and protected in winter, it is the most beautiful and very sweetest of all

Neapolitan Violets, so that it is a variety all true amateurs should grow if they have a favourable soil and position.

Of single Violets there is nothing that can touch Princess of Wales so far. La France, which has been so much vaunted, is a little dwarfier growing, but not so fine or quite so large. In any case, the difference is not enough to make it worth growing when one already possesses Princess of Wales.

Violet Luxonne.—This Violet has so many names that it is difficult to say under which it is most known. It is very free and rich, being purple in colour, quite the best Violet for spring bedding. Not very tall in stalk and very abundant and long-lasting in bloom, it makes a solid sheet of rich purple, which lasts for a long time. It begins to flower in autumn on the Riviera, and continues all through the winter. The leaves are dwarf and the habit excellent. Its fault is that it is much less sweet than other Violets, but its beauty is undeniable in the open garden. Last year I obtained as many varieties as I could to test them, and those I have mentioned seem to me by far the most desirable. A new white, sweeter and larger than Comte Brazza, is still a want, and a white Princess of Wales would indeed be welcome, as would a large pale grey Neapolitan to match Mrs. Astor.

Iris reticulata.—It is a curious fact that this Iris seems quite independent of climatic influences so far as earliness is concerned. For many years I found that *I. reticulata* opened its first bud on March 4, and to my surprise these bulbs transplanted to the Riviera have refused to change their habits, and have both last year and this spring opened their blooms first on that same date. Its vigour and size are greatly increased by the change, so that I notice friends call it the major form nowadays, which makes it still more curious that its date of flowering should remain unchanged.

Nice.

E. H. WOODALL.

OBITUARY.

SIR EDWIN SAUNDERS.

THE death of Sir Edwin Saunders, at his residence, Fair Lawn, Wimbledon Common, on the 15th inst., at the great age of 87, has deprived the National Chrysanthemum Society of its greatly revered president, to which office he was elected in 1891 on the resignation of Lord Brooke. He had been a member of the society for some years previously, and took a great interest in its work. His gardener (Mr. A. Newell) grew Chrysanthemums with great success at Fair Lawn, and was a frequent exhibitor at the society's shows at the Royal Aquarium, as well as at local exhibitions held at Wimbledon, Roehampton, and elsewhere. Up to within the last two years the late president made a point of attending the exhibitions of the society, but increasing infirmities prevented his attendance since. He took a great interest in the affairs of the society, and wished to be informed as fully as possible as to its proceedings. Every year he gave a valuable president's prize in one of the leading classes, which always brought a keen competition.

Sir Edwin was also for many years a vice-president and warm supporter of the Wimbledon Horticultural Society. He was one of the oldest Fellows of the Royal Botanic Society, and for nearly thirty years a member of the council. His charming garden at Fair Lawn was the creation of Sir Edwin. Miss Braddon has said, in one of her novels, that the greatest happiness is derived from a garden which is one's own creation, and this was the experience of the owner of Fair Lawn. He purchased the present site in 1851. At that time it was a rough piece of land covered with scrubby trees; the best of these were retained, and the remainder cleared away. A plan of the ground was drawn by the late Mr. R. Marnock, according to instructions received from Sir Edwin, and Mr. Marnock also designed the mansion, the style of architecture being a combination of the Greek and Italian. For a number of years Sir Edwin attended the late Queen Victoria in the capacity of surgeon-

dentist, and he was greatly esteemed by Her Majesty. He was knighted in 1883. Lady Saunders survives him, but there is no family. He was buried at the Putney Vale Cemetery on Wednesday last.

Crystal Palace Fruit Show.—The prize schedule for this show will be issued in a week or ten days by the Royal Horticultural Society, and will contain an authoritative list of dessert and cooking Apples, Pears, and Plums, post free one penny. Donations towards the prize fund will be gratefully received by the society. [We hope all interested in fruit growing in the British Isles will come forward and help the Royal Horticultural Society as much as possible in continuing this most interesting and important fixture.—Eds.]

Important sale of British Lepidoptera.—Mr. J. C. Stevens will sell by auction, at his great rooms, 38, King Street, Covent Garden, on Tuesday next, the collection of British Lepidoptera formed by P. W. Abbott, Esq., of Edgbaston, comprising long series, in fine condition, and uniformly set, of most of the British species, including some particularly choice varieties and aberrations, together with the cabinets in which they are contained; also Palæarctic Lepidoptera and other insects, &c.

Proposed National Pea Society.—The adjourned meeting, to be held next Tuesday at Winchester House, E.C., has been abandoned, as the Bicentenary Committee are calling a meeting for 2.30 on the same day at the Hotel Windsor, Victoria Street, S.W., to form a National Sweet Pea Society.

Mr. F. W. Cooling, of Bath, gave a most interesting lecture upon "Roses and How to Grow Them," before the Kidderminster Horticultural Society recently, of which a lengthy account appears in our present number.

Horticultural Club.—The usual dinner and conversazione took place on Tuesday evening last; amongst those present were the Rev. W. Wilks, the Rev. F. R. Burnside, Messrs. James H. Veitch, H. G. Rivers, S. A. de Graaff, George Bunyard, R. Wilson Ker, Selfe Leonard, and the secretary. A very exhaustive address on "The Principles and Practice of Wild Gardening" was given by Mr. H. Selfe Leonard, but as the paper will appear, we believe, in the proceedings of the Royal Horticultural Society, it will be unnecessary to give any abstract of it. The Rev. W. Wilks, in a few happy words, moved a vote of thanks to Mr. Selfe Leonard, which was gracefully acknowledged by him.

A lecture on rare Orchids.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, at 1—5 p.m. A lecture on "Inconspicuous and Rarely Cultivated Orchids" will be given by Mr. W. H. White, A.R.H.S., at three o'clock.

Apple Notes.—I am sorry to see that "D. K." County Clare, has to complain of the new Northern Greening not keeping well with him. I always looked upon it as ranking next to Wellington in this respect, and have frequently had it in fine condition from the middle of March to the end of April. I can fully endorse all that "D. K." has to say in favour of the old or original Northern Greening. It is a first-rate late keeping cooking Apple, and those who prefer a rather acid fruit for eating would not object to it for dessert in March and April. This variety, I fancy, grew very extensively, and in seasons when Wellington and Alfriston were scarce it proved of the greatest service in prolonging the kitchen supply until late in the season.—A. W.

Narcissus cyclamineus major.—The quaintly pretty little *Narcissus cyclamineus major* has many admirers when it comes into bloom, but one fears that it has acquired a comparatively unsatisfactory reputation because of the difficulty some have in establishing it in their gardens. I am, and have been for a few years now, the happy possessor of it in an established condition, although it is only now showing increase by offsets, and I think that a few similar instances would lead to

its more extended cultivation. I would not like to be bold enough to aver that the soil is the main element, because I lost a number of bulbs before I was eventually able to say "Eureka." I imagine, however, that soil and moisture combined have a great deal to do in securing success. A Daffodil grower, who could give me many points and win easily, cannot succeed in establishing it permanently, and raises it regularly from seed. Of course, it is better if one can persuade it to grow and bloom freely without that trouble, and the garden to which I refer is much heavier in its character than mine. I think that *N. cyclamineus major* likes a sandy peat soil, but to be in such a position that it never suffers from absolute dryness. After several failures in the same soil, but in a dryer position, I finally succeeded in a low flat at the base of a rockery, where the Daffodil receives all the surplus water from the rockery, which is rather freely watered in dry weather in spring and summer. By way of further experiment, I have made a small planting of new bulbs on the rock-work surrounding a small tank for aquatics, and where the roots of *N. cyclamineus* will have free access to the water, which soaks into the soil between the cement margin and the stones which shield the cement from view. These plants are appearing, but it will be another season before I can say whether I have to write the experiment down under the heading of failures or of successes.—S. ARNOTT, *Carsehorn, by Dumfries, N.B.*

Camellia reticulata.—Few plants are more showy when in flower than this, yet except in a few establishments good plants are never seen, the many varieties of *C. japonica* being almost exclusively grown. Although the flowers when cut cannot be used for such a variety of purposes as those of *C. japonica* it is an infinitely better decorative plant, the habit being looser and the flowers larger and not so symmetrical in outline. It is a native of Hong Kong, and has been in cultivation for close on a century, the form with semi-double flowers having been figured as long ago as 1827. The typical plant was discovered by Captain Champion about 1845 in the woods in Hong Kong. The leaves of this species are longer and not so glossy as those of *C. japonica*, while the flowers of the cultivated form are semi-double, nearly 6 inches across, bright rose in colour, with a central mass of yellow stamens. The petals are broad and undulated, giving the whole flower the appearance of a semi-double Tree Pæony. During the last few years a revival of interest appears to have taken place among horticulturists in this plant, a number of firms now propagating it largely. In the temperate house at Kew a pyramidal plant 15 feet high is now a mass of flowers.—W. DALLIMORE.

MELONS AND MELON HOUSES.

HOW diverse is the treatment given to Melons generally in houses now as compared with the old practice of keeping the plants in perpetual humidity, the floor always quite wet, and the roots running in a bed of great depth and width, largely composed of manure. If now we turn into a garden where Melons are grown on modern lines—and especially in great quantity for market sale, or, not less important, for seed production—there is no lavish use of water, the atmosphere is but moderately moist, and the root area is so limited as to evoke great surprise from those who have so far grown Melons only on the old methods.

The accompanying illustration represents a small section of a modern Melon house. It shows admirably how soil borders or beds are constituted. In this case the stage is of the ordinary open or trellis form. The bed of soil is placed close to the outer wall, and, being about 20 inches to 24 inches wide, a board 6 inches deep is fixed upright at that width from the wall all down the stage. In filling in the bed or trough thus formed, the coarser or turfy portion of the soil is placed in the bottom; then

it is filled up quite firmly with a compost that has been well mixed, but not sifted, of sweet, turfy loam (three-fourths), the rest being well-decayed stable manure, with some bone-dust and soot added. When the trough is filled there is a depth of some 7 inches to 8 inches of soil in the centre, and that is ample to sustain the plants whilst carrying a proper crop of fine fruits. In cases where the staging is closely constructed, such as of soil or of brickwork, &c., the soil bed for Melons is formed of a movable trough. This is composed of a floor of stout, open, wood trellis 20 inches wide, to the sides of which are fixed stout boards from 7 inches to 8 inches in depth. This is fixed on wooden bearers just over the side or bottom-heating hot-water pipes, and is then filled with soil as before. The great value of this method of soil-bed making is that after each crop has been matured and the plants and soil removed, the troughs can be thoroughly cleansed and white-washed to render them fungus-proof. Eelworm is also in that way fully combated. This form of bed-making is as suitable for span houses as for those of lean-to form, but generally the span form is best for Melon culture, as then a house may be entirely so utilised, or, if preferred, one side may be of Melons, the other of Cucumbers, both these plants being treated alike. Without doubt, where



A HOUSE OF MELON SUTTON'S NE PLUS ULTRA.

houses of span form are built low and have a centre path sunk at least 2 feet below the ground level, there is much less exposure to the colder atmosphere than is the case where houses are erected fully on the level. The market grower prefers the former, because they need a less expenditure of fuel to heat them. The gardener, for appearance sake, and especially the professional horticultural builder, prefers the latter. It is so widely held that side air be given, that nothing is more common in builders' erections than to find swing-sashes for that purpose amply provided. The market grower has no side sashes to open. Usually, indeed, he has none whatever, or, at the most, some widely-placed wooden slides set in the low side walls of the houses. Melons and Cucumbers need very little of such ventilation, and what they need can be usually furnished by top ventilators. Houses of span form should be about 12 feet wide outside, and have over the centre alleys a height of about 7 feet. The width inside of about 11 feet affords, after deducting an alley of 24 inches wide, stages or beds of 4½ feet wide. Of this space, however, only one-half at least is needed for soil, the rest being, whilst the plants put out for permanent fruiting are young, used for other purposes. But the width of bed is requisite to enable the plants to have ample growth room, and, if they be put

out, as many growers do, at 18 inches to 20 inches apart on the soil-bed, each plant carrying at least three stout main stems with side breaks, they carry from six to seven fine fruits. The most deliciously flavoured, finest, and most perfectly finished Melons I have ever seen have been grown in this way: The plants raised from seed sown at the rate of twelve in a 5-inch pot are, so soon as well up, shifted singly into 3-inch pots, and within a week from then are planted out into the soil-beds if ready. Growth is surprisingly fast, and the general results are far better than is the case when the plants are kept in 3-inch pots till they are strong. There is, too, far less gumming than is not infrequent when plants are kept too long in the pots. When Melon culture in any one place runs to many houses, almost thousands of plants, and quite a vast quantity of fruit, naturally such wide culture furnishes experience very diverse from that which gardens alone can furnish. The variety shown in the house illustrated is Sutton's Ne Plus Ultra.

A. DEAN.

SOCIETIES.

KIDDERMINSTER HORTICULTURAL SOCIETY.

MR. F. W. COOLING, F.R.H.S., of Bath, delivered an illustrated lecture in the Town Hall, Kidderminster, on Wednesday, to a large attendance of the members of the society and of those interested in the cultivation of Roses and other flowers, on "The best Roses for bedding and borders, and how to grow them." The chair was taken by the Mayor (Alderman P. Adam), in the absence of Mr. M. Tomkinson, and there was an attendance of over 450 people.

Mr. Cooling commenced his remarks by saying that he received with very great pleasure the invitation of the committee of the society to read a paper on Roses. The National Rose Society's offer of prizes for so-called garden Roses fifteen years ago brought to the front many beautiful varieties of old-fashioned Roses that had never been seen before on exhibition tables, and in many Rose gardens had been almost forgotten. The many summer flowering Roses, the Austrian Briars, and other single and semi-double kinds, came quite as a revelation to some of the younger Rose growers. It was the great interest these exhibits created amongst real lovers of Roses that brought about the desire to have a less formal arrangement of Roses in the gardens. Another factor was the increased cultivation of Tea Roses, and the introduction of many distinct varieties suitable for garden decoration. The demand for garden decorative Roses had induced raisers and hybridists to pay greater attention to the introduction of a race of Roses that possessed merits other than being merely exhibition sorts, and the result had been the introduction of many decorative varieties. He did not disparage nor discourage the growth of Roses for exhibition, for the growth of more decorative and easily grown varieties would improve the style and increase the interest taken by the large body of rosarians who did not exhibit. The desiderata of a bedding Rose were a continuous and free bloom, compact and bushy habit, hardness, good foliage, and clear colour, and varieties that should improve each year with careful pruning and ordinary attention without replanting. There were many such varieties. La France was one of the best, although a little tall in growth, therefore it should be placed in the centre of other Roses—it was well-known, and was a real autumnal bloomer. Although introduced thirty-two years ago, there was no Rose like it, being one of the finest all round sorts that they had. Its counterpart Augustine Guinoisseau, almost white, was equally free in flowering, but a little tall in habit. The finest of all common varieties for massing was the Marquise of Salisbury, which combined rich, bright velvety scarlet-crimson colour, and prolific growth, flowering from almost every shoot and well into the autumn—an ideal bedding scarlet Rose. Other varieties were named, and the lecturer said it was amongst the Chinas that they found some of the most beautiful bedding Roses, commencing to flower first, and remaining in bloom till the last. Amongst the Tea-scented Roses there was quite a selection of hardy bedding plants, and it was from those they got the lighter colours. Hybrid perpetuals must not be forgotten, for many of them were entitled to be called perpetuals, while many were not. Then there was another group of Roses for bedding—the Polyanthas. They were chiefly dwarf-growing, free-blooming Roses, closely allied to the Chinas. After speaking of good shapes for the beds, the lecturer dealt with the making of them. For new beds no better soil could be had than the top spit from a meadow with the grass in it. It should be used with one-sixth or one-tenth its bulk of good old stable or cow manure and some sharp sand—such as the grit which washed down a country road after a storm—a bushel to a load of compost. The beds should not be too wide, so that they could be got at easily from both sides. He strongly recommended raised beds; the appearance was better when the plants were in bloom; they were better drained, and could more easily be protected. As to distance in planting the short stocky growing varieties should be about 12 inches to 16 inches apart, and others 18 inches to 24 inches. Pruning should be very moderate—old and worn-out wood and very thin growth removed, but the new growth only shortened. Dealing with the question of Roses for borders, he had greater latitude. All varieties of pillar and climbing Roses might be tied and trained to Larch or Fir Poles, or over arches of wood or iron. In front of the tall specimens should be shorter and more compact varieties from 5 feet to 6 feet high, with here

and there a huge bush of various kinds, and in the open spaces masses of Tea and Hybrid Tea Roses. On such a border there would be a great wealth of bloom, and with judicious selection it would be a source of pleasure from June till November. He strongly urged the advantage of a mixed border of Roses in every garden of any pretension. In almost all gardens there were nooks and odd places in which some of the hardy climbing Roses might be planted, with effects which would often surprise the owners. The lecturer named many of the most suitable varieties for arches, pillars, and borders, and said pruning with all pillar Roses required a little care, and should be done after the flowering season was over. That might seem strange, but it was not generally grasped that all the Roses he had been describing, even the climbing Teas, flowered from the growth they made the preceding year, and therefore, to encourage growth in the latter part of the year was to ensure flowers for the following season. Thus after the flowering was the time to look over the plants, cut out all old and used up wood, and train in the young shoots to encourage them to grow, mulch round the roots, and give liquid manure if available. Mr. Cooling gave some details as to Roses suitable for hedges, arches, pillars, and bowers, mentioning *Félicité-Perpétue*—a sort of rapid growth, and flowered in large clusters with bright green foliage, which was almost evergreen—and *Himalaica*, which sometimes grew 10 feet to 15 feet in a season. Bennett's Seedling was admirably adapted for arches, and at the flowering season was one mass of bloom—a veritable fountain of Roses. He afterwards dealt with those kinds of Roses suitable for the ordinary garden, in various positions, of which Austrian Briars were charming varieties, and a sort so distinct that a place should always be found for one or two. In many gardens hedges of Roses might be used to advantage—in small ones to divide the flower garden or lawn from the kitchen garden, and in large gardens to enclose the lawn or to encircle the Rose beds or Rose garden. A number of photographic views were shown, indicating those Roses which might be grown to perfection against walls, and which form amid a wealth of bloom and foliage a beautiful sight to behold.

At the close of Mr. Cooling's lecture, which seemed to deal more particularly with Rose growing from the professional rather than the amateur gardener's standpoint, questions were invited, and Mr. F. Hobbs suggested the advisability of Rose growers joining the National Rose Society. A number of questions were promptly answered by the lecturer, and on the motion of Mr. E. J. Morton, seconded by Mr. Bass, the thanks of the meeting were passed to Mr. Cooling for his address, while a similar compliment to the Mayor for presiding was adopted on the proposition of Mr. Linecar, joint hon. secretary to the society, seconded by Alderman Hepworth. The views by which the lecture was illustrated and made more interesting, were worked by Mr. R. E. Grove, who also was thanked for his useful services.

The committee are greatly indebted to Mr. H. E. Molyneux, the Royal Meteorological Society, and Messrs. Cassell and Co. for supplying the slides, and to Mr. Edward Mawley and Mr. R. Foley Hobbs (Worcester) for their kind assistance and encouragement.

READING AND DISTRICT GARDENERS' ASSOCIATION.

THE last meeting of the above association was attended by a very large number of members. Mr. T. Neve (chairman) presided. The subject for the evening was: "Peach and Nectarine Culture: New and Old Methods Contrasted." This was introduced in a very practical and racy manner by Mr. W. Iggulden, of Frome, the following being a few of the points raised:—Style of houses: Lean-to, three-quarter span, and span-roofed—advantages and disadvantages in each; preference given to rather high span-roofed houses, with either single or double cross trellises, planting trees back to back in the latter instance. Borders: Where natural conditions are unfavourable, excavations and completely drained and remade borders are necessary, but market growers have the advantage in this respect, in that they select positions that only require trenching and slight additions made to the ordinary soil. Trees: Maidens v. trained trees—the advantage being all in favour of the former. Maidens are the quickest to attain to a heavily productive state, and develop into the finest as well as most lasting trees. The lecturer mentioned having planted a number of maidens under glass in March, 1899. Fifteen months later each were being cleared of from two dozen to four dozen first-sized fruit, fetching the highest market prices. An interesting discussion followed upon the points already named, also upon pruning, clearing trees of insects, varieties, bud dropping, &c., the members pointing out that there was a great difference in the position of the market gardener and private grower, and therefore the culture to a great extent must be different. Those taking part were Messrs. Neve, Lees, Bright, Powell, Barnes, Baskett, Fry, Stanton, Townsend, Wilson, Cretchley, Exler, Moody, and Lever. The exhibits were not so numerous, but of excellent quality. Mr. W. G. Pigg, of Treveroli, Maidenhead, entered two beautiful Orchids for the association's certificate, and both gained the judge's favour: they were *Cymbidium lowianum* and *Lycaste Skinneri*. Mr. Stanton, of Park Place Gardens, staged some lovely sprays of *Asparagus Sprengeri*; and Mr. J. Pound, of The Gardens, The Warren, Caversham, some splendid specimens of the blue Pearmain Apple. A hearty vote of thanks to Mr. Iggulden brought the meeting to a close. Six new members were elected.

WIMBLEDON GARDENERS' SOCIETY.

THE last meeting of this society was held on Monday, the 4th inst., and there was a capital attendance. There were two papers for reading, one by Mr. C. Gibson, Morden Park, Mitcham, on the "Cultivation of the Rose," and one by Mr. A. Newell (gardener to the late Sir E. Saunders, Fair Lawn, Wimbledon Common) on "Floral Decorations." Mr. G. Thomson was in the chair, and opened the proceedings by calling upon Mr. Gibson for his paper.

Briefly referring to the great antiquity of the Rose, the work of the French raisers, and our own florists, for instance,

Messrs. Paul and Sons, Mr. Bennet, Mr. Dickson, and Mr. Prince.

The cultivation of the different sections was ably dealt with: the different varieties and their characters must be studied rather than by laying down any general rule. With regard to the general pruning of the Hybrid Perpetuals, thinning out the old wood or very weak growth, and pruning weakest growth hard, leaving the stronger growths rather longer for fine flowers. Where quantities are required rather than quality, it will not do to be so severe with the pruning, and it is generally advisable to leave pruning until near the end of March or early in April, as there is not so much danger from late spring frosts, and by then any damage done to wood in the winter can be better seen.

The propagation by seeds, cuttings, budding, and grafting were dealt with; also layering and the most suitable soil. Planting was best done when there was still some warmth in the ground, early in autumn.

Attention to cleanliness, keeping out of suckers, the destruction of the maggot, and the keeping of mildew in check by plentiful use of sulphur, disbudding, the care of the blooms when wanted for show, the early gathering to keep them fresh, were all touched upon, and a selection of varieties given for useful purposes, a copy of the National Rose Society's catalogue having been kindly placed at the disposal of the members by the honorary secretary of the National Rose Society.

There was very little discussion considering the popular subject. A desire for more information upon pot culture was met by a promise of a paper at some future date.

Mr. Newell referred to the marked contrast in the way in which flowers were used for decorative purposes now and some years ago, when wreaths and bouquets were packed closely with flowers, and, he might say, looked almost as if shears were used to level them off. Now in everything lightness and harmony in colours were the great desiderata. He gave a few hints as to what was necessary for use in cut flower work, as different lengths of wire, binding wire, wire scissors, and a fine spray. He preferred clay and sand to place in baskets to hold moisture, and also to keep flowers steady, and urged the use of suitable foliage, especially in covering the sides of a basket for exhibition. A few hints were given as to the decoration of a dwelling-house. Use bold vases of such flowers as large Chrysanthemums or Peonies, with suitable foliage in a front hall, a place where a first impression could be given, bearing in mind the prevailing colour of the surroundings. The use of good plants of Crotons or Palms, with flowering plants in drawing-rooms, the way to fill a fireplace, and directions as to dinner table decorations. The best effects were obtained by the use of coloured glass, green he preferred, and the use of sprays of Smilax, Jasmine, and Asparagus, with a few nice flowers. In using two colours he always preferred to use the darker ones for the ground.

A few questions were asked, and votes of thanks given to the readers of the papers and to the chairman for his services during the session, which was considered to have been a very successful one, and hopes were expressed that it would be possible to arrange for another similar course for the next winter season.

BRISTOL GARDENERS' ASSOCIATION.

THE fortnightly meeting of this society was held on Thursday, the 14th inst., at St. John's Parish Room, Redland, Mr. G. Brook presiding. The lecture for the evening was on "The Fuchsia," being given by Mr. J. Julian, of Cardiff, and hon. secretary of the Cardiff Gardeners' Association. Claiming for Fuchsias at the outset an elegance that marked them out for decoration, he gave a short history of their introduction into this country about 1788. He also gave details of the cultivation from the time of putting in cuttings until the specimens reached a height of 6 feet, and a diameter in proportion. The best time for propagating he gave as February, the cuttings when rooted to be continually repotted until pots 16 inches in diameter were reached. The compost he recommended was loam, leaf-mould, and manure, with an addition of silver sand. He also gave instructions as to pinching, training, feeding, the kind of structure best suited to the culture of Fuchsias, and method of dealing with insect pests. Mr. Julian's lecture was much appreciated, and he was heartily thanked on the motion of the chairman. Prizes for three Hyacinths were awarded to Messrs. Price and Lewes. For three Tea Roses: First, the Lord Mayor, C. Colthurst Godwin, Esq. (gardener, Mr. McCulloch); second, Mr. Barrow. Certificates of merit went to W. A. F. Powell, Esq. (gardener, Mr. Raikes) and Mr. T. Clark, each for a Cyclamen; Lady Cave (gardener, Mr. E. Poole) for Begonia; W. M. Wills, Esq. (gardener, Mr. Frampton) for *Cineraria stellata*; and Mr. Price for *Lycaste Skinneri*.

ANSWERS TO CORRESPONDENTS.

Names of plants.—A. F. M. (Coltness).—The specimens sent were far too poor to name with absolute certainty, but as far as we can make out they are as follows:—1, *Asparagus plumosus nanus*; 2, *Davallia Mooreana*; 3 may be a *Coleus*; 4, *Dracena marginata*; 5, *Begonia Rex* var.; 6, *Hoya carnosa*; 7, *Medinilla magnifica*; 8, *Lomatia illicifolia*; 9, *Ruellia Portellae*; 10, *Rondeletia* (Rogiera) *gratissima*; 11, *Gonolophium subauriculatum*.—G. C.—Cornelian Cherry (*Cornus Mas*).—Rev. R. M.—The true *Galanthus nivalis latifolius*.—W. H. Keary.—A very brightly-coloured variety of *Cattleya Trianae*.—H. M.—*Pittosporum tenuifolium*.

Names of fruit.—F. G. (Wolverton).—1, Barchard's Seedling; 2, Fearn's Pippin.—E. S. (Coves).—The fruit you sent is Claygate Pearmain, not Golden Pearmain.

FLOWER GARDEN.

Verbena Ellen Willmott (F. S. A.).—You can get this at any good nursery, such as Messrs. Sutton and Sons, of Reading; J. Veitch and Sons, of Chelsea; Cannell, of Swanley; H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham; Barr and Sons, King Street, Covent Garden, &c.

Carnation disease (MRS. MEADE).—The leaves are badly affected with what gardeners term "spot." It is a fungoid disease caused by a damp atmosphere, and in the case of the plant sent this has been aggravated by the plants having rather too much water at the roots. We advise careful attention to watering. The frame lights should be pulled off whenever the weather is fine; go over the plants, cut off all the diseased leaves, and stir the soil up a little on the surface. The plants would do better if they were potted more firmly; the soil in the pot sent is too loose for Carnations. The plants will grow out of the disease as the season advances. All they require is a dry atmosphere and plenty of air night and day.

Violets diseased (MRS. MEADE).—Your plants are suffering in the same way. As much as Carnations they suffer from a close atmosphere and from damp. The same treatment will give the same satisfactory results. The weather lately has been very wet.

Taking Dahlia cuttings (W. W.).—Yes, Jadoo fibre would do very well. It is a soft, spongy material, thoroughly well adapted for this purpose. By all means try it, and we advise you to use it alone.

Nymphæa ignea (N. R.).—We should certainly plant this kind in your rock pool. A very good kind for the pool, too, is the pretty small-flowered and growing *N. pygmaea Helvola*.

Aquilegia longissima (E. HORDER).—The species mentioned, *A. longissima*, is unfortunately not in cultivation in this country to our knowledge. Seeds were collected in Mexico, and plants raised and grown at the Botanic Garden, Harvard University, Cambridge, Mass., U.S.A., in 1883, but was entirely lost again in 1886. Owing to its habitat being difficult to reach it may be some time before a further supply of seed is obtained.

Perennial Peas (C. J.).—You may obtain seeds of all the best known species or varieties of what are commonly known as Everlasting Peas from any good seed firm. The best known species are *Lathyrus grandiflorus*, the earliest carrying large red twin flowers; *Lathyrus rotundiflorus*, which carries in great profusion flowers in clusters or racemes, and of a reddish carmine hue; and *Lathyrus latifolius*. The best kinds are white, flesh, red, and crimson. Plants of most of these forms may be purchased in pots also. Seeds may be sown in very small clumps where the plants are needed to grow. If no supports in the shape of trellis or trellis work be provided, then in all cases use ordinary Pea sticks. All forms are charming summer flowers.

Poppy Anemones (LAURA G.).—You should either sow your seed of Poppy Anemone in shallow pans or boxes, standing them in a frame or greenhouse, or else under hand-lights outdoors. We prefer the latter method, sowing the seed thinly. If you sow thus, prepare a piece of ground by forking it well, burying into it some leaf-soil and old hot-bed manure, making the surface very fine, then sowing over it a quantity of sharp white sand. Put your seed into a large basin and mix with it twice its bulk of sand, well rubbing it up to disintegrate it, then place the hand-lights on the prepared ground to mark the spaces to be sown, and draw shallow drills 2 inches apart in these spaces. Sow the seeds thinly and evenly, cover up with soil, water, and place the lights over, then shade in sunshine. When the plants are well up remove the hand-lights. The plants can be lifted and be dibbled out where to flower at any time during the summer as may be convenient, and they will bloom finely the following spring.

Diseased Violets (M. W.).—Your Violets have been attacked by a fungus, with the name of which we are not familiar, and that is of little consequence. So far, it is to be feared that your stock may not do to propagate from another year, but in any case you may smother the plants with sulphur and shut the frame close down for a few days, later, when the weather is finer, washing the plants by an overhead watering. You can follow that with a free dusting of soot between the plants, then top-dress, after removing all the worst of the leaves, with an inch thickness of fine soil. In that case you may secure quite new clean leaves and runners, but there is uncertainty. If you cannot get plants from a clean source next autumn, in any case dust with sulphur once or twice early in the winter, as that may check the fungus in such case.

INDOOR GARDEN.

Coleuses from seed (STALPANS).—Unless Coleuses are wanted for bedding—the worst possible use to put them to—it is not at all worth your while to trouble about wintering these very tender plants, for they need a moderate warmth to keep them alive. You can purchase for a small sum a packet of seed, which may be sown in 5-inch pots filled with sandy soil or in a pan stood in a warm part of the greenhouse and covered up with glass. Seedling plants are very varied, and every one has beautiful leafage. Some may be purchased to grow bushy, others allowed to grow tall and to bloom, and although the flowers are not large, yet the spikes are particularly pretty. We like these plants grown in this way in the greenhouse or in rooms in the summer very much. Some seed stocks have very beautiful leafage. Flowering plants also give seed very freely.

Muscari seedlings (NORTH CRAY).—The seedlings should be left in the pan till they have lost their leaves, when they may be planted out where they are to remain. They will probably be flowering plants at two years old.

Calla and Hippeastrum (C. E. FLETCHER).—It is difficult to suggest any reason for your Callas dying off after the manner of the enclosed leaf, which, however, appears to be unusually thin in texture, hence we can only suggest that the plants may have been kept too close, thereby resulting in very soft foliage, which has suffered by exposure to the

sun. This, however, is but conjecture, for much the same effect would be produced if the plants had been given water from a newly painted structure, or an excess of some of the powerful manures now so much used would cause the leaves to burn up as in the one sent. We fear that little can now be done in your case, but should advise you to turn your plants out of doors in a sunny spot, when all danger from frost is over, and allow them to rest till July before re-potting. Then keep out of doors till the autumn frosts, and in every way encourage as sturdy a growth as possible by placing them in a light airy structure when necessary to remove under glass. The injury to the leaves and flower spikes of your Hippeastrums is caused by the bulb mite, which attacks them while still within the bulb, and the wounded portions enlarge as the leaves or stem develop. Various reasons have been put forward to account for the greater frequency with which this pest is now met with than it was formerly, and many recipes have been suggested in order to destroy it, but being buried in the fleshy matter of the bulb, it is safe against most insecticides, unless they are sufficiently powerful to injure the bulb itself. The best way to combat the mite in the case of the Amaryllis is to keep the plants in as healthy and well rooted a state as possible. Too moist a spot while resting, or an excess of water during the early part of the year, just as the bulbs are starting into growth, is particularly favourable to the increase of this pest. We should advise you to rest your bulbs in a light airy spot in order to consolidate the texture of the bulbs as much as possible; then about Christmas, or early in the new year, before they start, shake them quite clear of the old soil, remove every item of decay, and repot in a mixture of good yellow loam, leaf-mould, well-decayed manure, and sand. After this give very little water till the roots are again active.

FRUIT GARDEN.

Outdoor Fig tree not fruiting (HANTS).—We fear from the description you give of your Turkey Fig on the garden wall that you have not only allowed it far too much root room but have encouraged it to run too wild. When Fig trees are grown simply to produce wood and leafage for wall covering they may have all possible root run, but when fruit is desired then their roots should be severely limited in root run. It is not too late now to have a trench cut 2 feet wide and as deep, or if needful to get at the roots, even 3 feet deep and 3 feet from the tree stem. Such a drastic root pruning will give the tree a great check, limit the wood growth, and cause fruit to be formed. Fill in the side of the trench nearest the tree with old mortar rubble, wood ashes, and soil, filling up the remainder with the soil thrown out. Top-dress the 3 feet border left with half-decayed manure, as the aim then should be to cause the formation of plenty of young roots near the surface and close home.

Early Strawberries (O. J. P.).—Unless a Strawberry planted tub be stood in a greenhouse we do not see how the plants can produce ripe fruit earlier than they will out on a warm border. Most certainly the fruits from the border will be far finer and much more abundant. If you really want to accelerate some Strawberry plants fruiting, and have none in pots specially prepared for fruiting under glass, then your best course is to place a wooden frame in a warm position. Put into it 12 inches thickness of short stable manure and well tread it down. On to that put as thick together as you can stand them Strawberry plants lifted with a spade or fork from the open ground, then fill in firmly about them with fine soil. Water them, then shut close up. You should in that way obtain fruits a fortnight earlier than outdoors. The plants should be those that have fruited once previously.

Pruning Apple trees (R. T. H.).—Certainly prune your Apple trees now rather than wait until the autumn. It is late, of course, but it would be very unwise to allow them to grow throughout the summer; the shoots made would be weak and useless, and would need severe pruning later, which is not usually beneficial.

Black Vine Weevil (JAMES BROWN).—The grubs you sent are not those of one of the Chafer, but of one of the Weevils. See the article on the Black Vine Weevil in this week's GARDEN.

KITCHEN GARDEN.

Sowing Brussels Sprouts (ARTHUR).—We do not think anything is gained by sowing seeds of Brussels Sprouts earlier than is possible outdoors, as plants put out early in the summer, and especially in rich garden soil, grow very gross, produce large, coarse Sprouts, and are, when very hard weather comes, liable to be killed wholesale. If you will sow seed now or within a week or so in shallow drills 10 inches apart out in the open ground, covering over the plot sown with fish-netting, raised by the aid of sticks a few inches from the soil, you will have in that way plenty of strong plants to put out towards the end of June and that is, as a rule, soon enough to obtain stout stems 2 feet in height that will produce good hard Sprouts for gathering at the end of November and all through the winter. When the plants get strong tread the soil firmly. It is good for the stems and hardens them.

Butter Beans (S. E. C.).—It is much to be regretted that so little of a practical nature seems to be known of these golden-hued Beans. You can choose between Runners and Dwarfs. When a few years since a trial of these Beans, including all the best continental varieties from whence most of them come, took place in the gardens of the Royal Horticultural Society at Chiswick, the two best climbers there growing 6 feet in height were Mont d'Or and Hungarian. The best of the dwarfs was also named Mont d'Or. The pods when ready for cooking are quite yellow and thick. They are stringless and need, when cooked to have their stems and points only cut off, then be boiled whole, being served up with gravy or melted butter. So presented they form a delicious dish. We wonder that these Beans are not widely grown. The end of May is the time to sow.

QUESTION.

Shrubs for tubs that will bear clipping or training into shape.—A correspondent asks for names of a variety of evergreen shrubs for the above treatment, and wishes to know whether there are others likely to be tractable in Westmoreland besides Box, Yew, Holly, Euonymus, Cryptomerias, Laurustinus, Bay, Portugal Laurel, and Veronica Traversi?

GARDENING APPOINTMENT.

MR. CHARLES HEWITT, late gardener to Mr. Shannon, Tudor Hill, Sutton Coldfield, has been engaged to take charge of the garden and Cactus houses of Mr. W. C. G. Ludford, F.R.H.S.

CATALOGUES RECEIVED.

Agricultural Seeds—Kerd Brothers, Market Square, Penrith.

Hardy Plants.—Messrs. T. S. Ware, Limited, Halls Farm Nurseries, Feltham, Middlesex.

Orchids.—Messrs. Charlesworth and Co., Heaton, Bradford, Yorks.

Lawn Mowers.—Messrs. John Crowley and Co., Limited, Meadow Hall Iron Works, near Sheffield.

Hardy Perennial, Alpine, and Rockwork Plants.—Mr. J. H. Wood, Woodville, Kirkstall, Leeds.

Hardy Plants, Novelties in Bamboos, Water Lilies, &c.—Messrs. Barr and Sons, King Street, Covent Garden, W.C.

Water Lilies and Aquatics.—Mr. Henry A. Dreer, 716, Chestnut Street, Philadelphia, U.S.A.

FORTHCOMING EVENTS.

March 26.—Royal Horticultural Society's meeting, Drill Hall, Westminster.

April 10.—East Anglian Daffodil Society's spring show.

" 11 and 12.—Annual show of the Cornwall Daffodil and Spring Flower Society.

EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editors invite readers to send in questions relating to matters upon which they wish advice from competent authorities. With that object they wish to make the "Answers to Correspondents" column a conspicuous feature, and when queries are printed, they hope that their readers will kindly give enquirers the benefit of their assistance. All communications must be written clearly on one side only of the paper, and addressed to the EDITORS OF THE GARDEN, accompanied by name and address of the sender.

As regards photographs, if payment be desired, the Editors ask that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editors welcome photographs, articles, and notes, but they will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, they will endeavour to return non-accepted contributions.

The Editors will not be responsible for the return of artistic or literary contributions which they may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN will alone be recognised as acceptance.

Edited by MISS JEKYLL and MR E. T. COOK.

Offices: 20, Tavistock Street, Covent Garden, W.C.

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THE GARDEN.

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[MARCH 30, 1901.

WALL GARDENING.

SO remarkable has been the growth of interest in garden matters of late years, and so happily is it the case that this wholesome growth is steadily increasing, that ways of gardening scarcely thought of twenty years ago are now being eagerly taken up. The better knowledge of many of the beautiful flowers of the Alps has shown that—though some are plants for our garden borders, and a still greater number will suit our rock gardens—there are many, and among them some of the most beautiful, that are plants whose right home in England is an actual wall.

We have not, except in a few favoured gardens, such natural walls as many alpinists have the benefit of at home, but most gardens have some kind of walls, while many have retaining walls of unmortared stone, what are known as dry walls. Now we have come to see how valuable these places are, for there are a good number of the mountain plants that can only be successfully grown in an actual wall, where their roots ramble back into the cool stony depths, and the heads are in full sunlight.

There are also numbers of gardens that have steep turf slopes, that are not beautiful in themselves, and that could without much difficulty be altered into just the kind of rough walls that would be the very place for many of the beautiful mountain plants.

Thick old walls, already mossed and weedy, are a paradise for many a lovely alpine, and it is pleasant work to take a small narrow-bladed pick and rake out the weeds and rubbish from the joints, while retaining as much of the moss as possible, and to consider what pretty plants may best go there instead, beginning with the best known wall plants, Wallflower, Snapdragon, Valerian, and small Pinks. Then, as knowledge increases, and with it the inevitable quick-growing interest that this most attractive form of gardening so soon awakens, other plants will be used, and the many delights of wall gardening will become more widely appreciated. Indeed, it is a wonder that it is not already more practised, for even the wild wall growths are beautiful, and when one sees the small wall Ferns and the yellow *Corydalis* and the dainty little Ivy-leaved Toad-flax growing contentedly, with no more nutriment than they can derive from the decaying mortar, one gets some idea of the little that wall plants want, and of the much they can give.

Walls are beautified quickly with the growth of plants when the seeds are sown with reasonable care and the right kinds are chosen. A wall of living beauty is possible before the mixed border has become established, or in gardens where no rock garden is possible, many beautiful alpinists that love to send their roots into the crevices are quite as happy here, even more so, than elsewhere.

OWN ROOT ROSES—A NOTE FROM AMERICA.

IN connection with the editorial article on Roses, February 9, I should like to give my experience on "Roses on their own roots." It is not extensive, but so far as it goes it is in their favour. Our people prefer a large number of one variety. We have been growing *Magna Charta* and *Ulrich Brunner* only. As there was in prospect for this winter a need for more Roses than we were prepared for, we had to buy some plants of *Magna Charta* (grafted stock). They were two year (?) old plants, our importation, but have not made an equal showing with our last winter's cuttings. For some reason they do not root so freely nor break so low down. Our plan with "*Magnas*" has been to place the plants after blooming in good light in some reserve house, say, a cold Peach house, until danger of frost is past, and then plant them out for the summer. They are potted up in October with all the stems left on, and ripened in some cold house or sunny pit, and not pruned until just before forcing commences. We cut our stems long, so we have to take any wood we can get for cuttings, mostly blind wood, but they do well. Another thing in favour of our plan of planting out for the summer is that plants on their own roots do much better than when grafted on budded stock. Stock of the last-named were not worth taking up last autumn. There seems to be an idea, I hardly can say with any foundation for it, that Roses on their own roots lose vigour with age, and must be renewed with a fresh importation every few years, but even so it would not be a serious matter. I am glad to add some names to my list, and would like to know whether any of your correspondents have tried Mrs. Sharman Crawford on their own roots.

T. D. HATFIELD.
Wellesley, Mass., U.S.A.

[We hope Mr. Hatfield's question will be answered by Rose growers in this country.—EDS.]

EDITORS' TABLE.

FLOWERS FROM WINCHMORE HILL.

Mr. Amos Perry, Hardy Plant Nursery, Winchmore Hill, near London, sends two delightful spring flowers. One is *Iris persica purpurea*, a flower of beautiful colouring, soft lilac-purple, very charming in a clear light, and quite distinct

from its parents. The other is the pure white variety of *Scilla bifolia*, a flower as precious as anything in the garden at present, making white patches in the rock garden and places where the early bulbs are planted. It is one of those good things to have near the house or to grow in pots in the cold or cool greenhouse.

FLOWERS FROM KIRKSTALL.

Mr. J. H. Wood, Hardy Plant Club, Woodville, Kirkstall, Leeds, sends the following March flowers for our table and the following notes:

SAXIFRAGA BURSERIANA.

One of our most valuable March-flowering rock plants, and is now in full bloom. Where it can be well grown it will repay the grower tenfold for all trouble by its crowds of pretty frilled, cup-shaped flowers borne on brilliant red stems, as a plant of only 1½ inches diameter will often bear fifteen or twenty blooms and seem in no way exhausted. *S. burseriana* thrives in a half shady situation away from drip, likes good drainage and moderate moisture. The same applies to its other forms, *S. b. major* and *S. b. speciosa*.

SAXIFRAGA BOYDI ALBA.

This beautiful species, in the way of *S. burseriana* and flowering at the same time, possesses a distinct charm of its own. Its much larger foliage, sometimes faintly encrusted, and shorter flower stems, surmounted by three buds flowering in succession, make it easily distinguishable from *S. burseriana*. The flowers, too, although quite as broad, are not frilled, and are flat rather than cup-shaped. Both are undoubtedly gems, but *Boydii alba* has more the appearance of a set jewel, with its large flowers lying close to the foliage. It seems to grow stronger than and under the same conditions as *L. burseriana*.

SAXIFRAGA SCARDICA.

This has been in bloom some time. A really good and bright yellow, it should be valued for its earliness. If planted under the shelter of a rock with a southern aspect, where it will be free from excessive winter wet, it is sure to thrive satisfactorily. It flowers from February well into March, when its place is taken up by *S. sancta* and *S. apiculata*.

OTHER NOTABLE PLANTS IN BLOOM

just now are *Triteleia uniflora* (Spring Starflower), *Primula rosea grandiflora*, *Anemone blanda*, *Sisyrinchium grandiflorum*, *Erica carnea* and its white form, *Narcissus minimus*, *N. cyclamineus*, *Lenten Roses*, *Iris reticulata*, *Dondia epipactis*, and others of more or less merit.

LÆLIA JONGHEANA.

We receive from Mr. Burbidge, from the Trinity College Botanical Gardens, Dublin, a flower of this uncommon Orchid, with these words: "It was described by Professor H. G. Reichenbach in 1872, but was rare in gardens until Sander had a strong importation last year. It is not by any means 'the fairest flower that blows,' but it is very pure and beautiful in its own way. The flower sent was grown by Mr. Bedford at the Straffan Gardens, the plant bearing four flowers on two spikes or scapes. Note the segments all in one plane; they are borne obliquely on the short scapes." The flower is 6½ inches across, both sepals and upper petals are of the same full mauve

colour; the petals are very slightly waved at the edges. The lip is beautifully fringed, and is edged with the same bright mauve colour; the middle lobe is lengthened, and is white as to its middle space and ornamented with several rows of deep yellow fringed plates or ridges that run into the throat.

DAPHNE MAZELI.

A flowering spray of the sweet-scented *Daphne Mazeli* comes from Mr. Dugmore, Parkstone, Dorset. This very desirable plant may be described as a hardier form of *Daphne indica*, which it much resembles. An excellent plant for the South of England. Mr. Dugmore says that he has grown it for thirty years, and has never had a plant killed by frost. It grows from 3 feet to 4 feet high, and spreads as much as 6 feet or 7 feet. Every shoot ends with the crowded heads of flowers, and the sweet scent carries from 30 yards to 40 yards. Peat, gravel, and leaf-mould is the soil it prefers. The foliage is best in half shade, but it flowers most freely in full sun. The more the flowers are cut the more compact the bush becomes.

SOME MARCH FLOWER ARRANGEMENTS.

OUT-OF-DOOR flowers are not exactly plentiful during March, especially when a biting north-east wind is retarding all growth; but some lovely forerunners of spring are now in bloom, and a few of them will go a long way if they are arranged with plenty of foliage that brings out the quality of each colour. The following combination will be found effective:—1. *Erica carnea* and sprigs of *Andromeda calyculata*. The latter is now of a purplish-brown colour, very low in tone, but beautiful with the peculiar pink of the heath. 2. Snowdrops, or *Leucojum vernum* and *Scilla præcox*, with foliage of *Achillea umbellata* and *Euonymus radicans*. These make a lovely frosty harmony of blue and silver, especially effective as a table decoration. 3. *Iris reticulata* and *Lavender*; the two spiky upright growths look very well together. 4. *Anemone fulgens* and leaf-sprays of common white *Ling*.

The greenhouse, of course, affords a great choice just now, but the following are particularly pretty combinations:—1. *Hyacinth Norma* and long sprays of deep pink fibrous-rooted *Begonia*. 2. *Blue Cineraria* and *Primula cashmeriana*. Pick off the leaves of the *Cineraria* and use *Azara microphylla* instead, or if silvery foliage is preferred, *Cineraria maritima*. J. C. C.

ORCHIDS.

THE CYPRIPEDIUMS (LADY'S SLIPPERS.)

NOTES FOR AMATEURS.

WE have no more varied and easily cultivated class of Orchids than the cool and intermediate house *Cypripediums* of the eastern section. The geographical distribution of the various species is confined to a limited space within the Indian monsoon region, where they sometimes follow mountainous chains, on which the species occur in groups of twos or threes, or are isolated at great distances from each other. Others are confined to islands or groups of islands. In the former case they usually occur at considerable elevation, where the rainfall is copious and frequent and the dry seasons are of short duration. On these elevated situations they are found growing chiefly on the ledges, and in crevices of limestone rocks, and in similar positions where there is a small accumulation of decayed vegetable matter, generally in the shelter of overhanging trees.

The kinds that are confined to islands grow at a much lower elevation. These naturally require

higher temperatures than the mountain species. It is therefore to the cool-growing section that the beginner's attention is directed. The majority of these lend themselves readily to artificial conditions, and, with a few exceptions, the cool-growing kinds, not only retain their normal vigour, but the cultural effect is apparent by increased size, substance, and more highly-coloured markings of the foliage. The flowers also are, in many cases, larger, and the usual one-flowered scape occasionally becomes twin-flowered. This no doubt is caused by the more liberal and regular treatment that can be afforded the plants when cultivated in our glass houses.

The intermediate house section requires a temperature of 55°. The following species and hybrids will be found suitable: *C. barbatum*, *C. callosum*, *C. bellatulum*, *C. venustum*, *C. exul*, *C. Charlesworthii*, *C. niveum*, *C. concolor*, and the natural hybrid *C. Godfroyæ*, *C. Druryi*, *C. hirsutissimum*, *C. spicerianum*, and the hybrids that have been derived from the intercrossing of the above-mentioned species, also those derived from the influence of one of the hot or the cool house section.

The potting material required differs according to the locality. In districts where the atmosphere is pure and free from the poisonous gases such as prevail during the winter months in the neighbourhood of large towns, the compost may be two parts fibrous peat to one of sphagnum moss. To this may be added a liberal sprinkling of fibrous loam and sufficient rough sand or finely broken crock to retain an open and porous condition. In town districts the use of loam must be avoided. *C. bellatulum* and its allies may be potted only in lime rubble, or the latter mixed with fibrous peat. The plants should also have a light position close to the roof glass. The pots used should be drained to two-thirds their depth with clean broken crocks, and only be sufficiently large to contain them comfortably. After the plants have been put in position the potting compost may be pressed moderately firm about the roots, mounding slightly towards the centre, and finishing with the base of the plant just below the rim of the pot. After potting, water thoroughly with soft rain water, which should be poured through a moderately coarse rose on the can. Rain water is most necessary, as when hard water is used it soon kills the moss, which quickly turns sour, and decay thus commenced, quickly spreads into the remaining portions of the compost. Water must be carefully given until the roots get hold of the new compost, then more liberal conditions may be afforded. Damp down the floors and staging twice a day in winter, when the temperature is normal. When the temperature is low, owing to unfavourable conditions outside, the atmosphere must not be too moist. During the hotter months of the year charge the house heavily with atmospheric moisture, which may be easily provided by frequent dampings. The house may also be freely ventilated when the temperature has advanced above 60°. In ventilating take care to avoid direct draughts, and give careful shading in bright weather.

The cool house *Cypripediums* require a temperature of about 50°, and their requirements may be provided by anyone in the possession of a greenhouse where the above-mentioned temperature can be maintained in cold weather. The potting compost is the same as advised for the intermediate house section. The cool-growing kinds are perhaps the most useful of the whole of the *Cypripediums*; they bloom when other flowers are scarce, i.e., during the winter months, from the end of October to the beginning of April. Their varied characteristics, combined with good substance and lasting qualities, render them useful for market and to use as cut flowers. Plants may in most cases be procured for a modest outlay of a few shillings. One of the best is *Cypripedium insigne*, a species which was until recently regarded as almost too common to grow; but since Orchids have become more popular for cutting it has proved one of the most useful kinds for the purpose. So much is it valued that one of the largest market growers says that even in the glut of the season last winter he could easily procure 3d. each for the flowers, and after

the New Year they realised much higher prices. Later importations of *C. insigne* have yielded some wonderful varieties, among them many of dark colours and heavily spotted forms of large proportions, others delicately tinted with green and yellow. Several among them, though purchased for a few shillings, have proved of most priceless value, as much as 150 guineas having been paid for small plants in some instances. This illustrates the desirability of procuring imported plants. One could quote several instances in which the buyer of a single plant, for the modest outlay of less than half-a-crown, has obtained a form of great value. The importations of this species generally arrive in the early spring.

Other species, such as *C. villosum* and *C. Boxalli*, require a liberal supply of moisture throughout the year, but during the months from March to October an abundance of moisture also at the roots. They may in each case be kept a little drier at the roots for a few weeks after the flowers have been removed. The repotting of the cool section should be done in early spring.

The best way to increase the stock is by division. If three or more growths, with foliage, are formed successively on the rhizome, the two front ones may be parted by carefully cutting through the rhizome between the second and third; carefully remove these with as much root as possible, leaving the old growth untouched. These back growths generally break freely, and in a short time make good plants. The part removed may be potted up in the usual way. The best period at which to divide *Cypripediums* is when the new roots are being emitted from the base of the young or last-made growth. When divisions are made of plants in this condition with due encouragement they quickly re-establish themselves in their new quarters. Freshly potted plants, especially where divisions have been made, should be carefully shaded from the direct rays of the sun.

H. J. C.

THE INDOOR GARDEN.

IVY-LEAVED PELARGONIUMS

PELARGONIUM *petatum* is the true Ivy Geranium, and, in addition to the leaves closely resembling the Ivy, they also have the same peculiar scent in the leaves, and are also of a climbing habit, though by stopping and tying them out they may be grown as bushes, and produce more bloom than when trained as climbers. There are now many beautiful double varieties closely resembling the true type in habit, and also many of hybrid origin, of which *Achievement* is one of the most distinct. It has leaves intermediate between *P. zonale* and the above, and the flowers, which are produced in large trusses, are of a beautiful soft rosy pink, a tint peculiar to this class of Pelargoniums. Mrs. J. G. Day, crimson-scarlet, very bright, distinct in habit. Among others of recent introduction the following are worthy of note: *Baden Powell*, large flowers of a soft heliotrope, with a blush shade; *Leopard*, mauve, with a deep crimson shading, and distinctly spotted with deep crimson; Mrs. H. J. Jones, a sport from *Souvenir de Charles Turner*. The peculiarity of this variety is that all the petals are deeply lacinated, giving it almost the appearance of an Indian Pink. And I may here refer to a beautiful new variety not yet in commerce. *Queen Alexandra* is of dwarf habit, with rather woolly leaves; the large semi-double flowers are of a soft flesh pink, with a shading of mauve, and regularly spotted with deep carmine-red, a very distinct and pleasing colour.

This promises to be one of the most beautiful and distinct of all this race of Pelargoniums. In growing the Ivy-leaved section they require more warmth when starting them in the spring, and require care to keep them free from insect pests. Green fly is troublesome, but if the plants be cleansed to start with, and kept regularly syringed, these pests will not give much trouble. The plants should be potted firmly in rather a light, rich



WALK OF POLLARDED LIMES IN MR. KEMP'S GARDEN, OLD PLACE, LINDFIELD.

compost, and receive good drainage. They should be fully exposed to the sun, except when they are in full flower, when a little shading will be beneficial. Liquid or artificial manure may be used regularly after they begin to flower, and if kept growing freely they will keep up a bright display throughout the season.

A. HEMSLEY.

THE PLEACHED ALLEY AND ITS KINDS.

THE pleasant walk of pollarded Limes shown in the illustration is not exactly a pleached alley in the older sense, in that the branches of the trees are not "curiously interwoven" or tied in to an internal scaffolding of laths to form an arched tunnel. But in some ways the more open arrangement, whether the trees are, as in this case, kept clipped in to a double wall, above the height to which the stem is left bare, or whether they are allowed to meet overhead; for there is shade from sun nearly all day, and no impediment to the movement of cool air; while each opening, bounded on either side by the upright stems, and by greenery of leaf and grass at top and bottom, pleasantly frames the quickly changing sequence of bright garden pictures.

NOTES OF THE WEEK.

Zephyranthes candida.—I have read the remarks made upon this charming flower with the greatest interest—an interest deepened by the fact that I am one of the many unfortunate ones who are, so far, beaten with it, although I still retain hopes of being able to grow it. What makes my disappointment the greater is that I have succeeded in keeping it several times long enough to make me think that it had become established, only to be rudely awakened from my pleasure by finding that it had once more disappeared. I had until last autumn a promising clump at the base of a south rockery, where it had been for three seasons apparently doing well. Last autumn it

failed to bloom, and I find that the bulbs have all rotted off near the neck and have made no root growth. I feel, therefore, that I must once again write it a failure. I am in doubt whether the excessive damp and wet of last summer and autumn had not something to do with the loss, or whether this *Zephyranthes* does not need a carpet of some surface rooting plant to secure it from the weather. I expect some of the failures we hear of result from procuring the bulbs too late in the season, but, of course, this would not account for my last disappointment. I fear *Zephyranthes candida* will never be a plant for the many, but it is so exceedingly beautiful that it is worth a good deal of trouble to succeed in establishing it. Possibly this might be more easily done from seeds, though I fear these are not procurable in the ordinary trade quarters. I hope the remarks made may be the means of inducing others to try what they can do with this beautiful autumn flower. If they fail they will have the satisfaction of knowing that others fare no better, although that is poor comfort indeed. If they succeed, they will be more than gratified with the result in the possession of one of our most charming bulbous plants.—S. ARNOTT, *Carsehorn, by Dumfries, N.B.*

Plants for small beds.—Flower gardens of intricate design, with tiny beds edged with box and separated by narrow paths, still exist in many places, and how to plant these small beds is often a matter for serious consideration. Large beds isolated on turf one can deal with easily; they can be filled respectively with one family, either in hardy or tender plants as may be required, but small beds in a regular pattern, crowded closely together, are not so easily managed. If hardy flowers are wanted, *Violas* will rank among the best. Select good free sorts in different shades of colour, and if the soil is at all light take some of it before planting and replace with a compost consisting of two parts rather stiff road scrapings and one of cow manure. Mulch after planting, and the *Violas*, with attention in the way of removal of seed pods, will flower right through the season. Scarlet *Lobelias* or small specimen *Fuchsias* may be used at intervals, but very sparingly; in some cases only one may be required for each bed. *Ageratum imperial dwarf* was recently voted a grand dwarf bedding plant; in its particular shade

it can be specially recommended for hot, dry situations, where facilities for watering are not of the best. *Agathaea celestis* is another of the blue shades of different habit; its small *Marguerite*-like flowers are very pretty and effective when contrasted with some silver-foliaged plants. Several of the fibrous *Begonias* are very suitable and require nothing with them, the pink flowers showing to splendid advantage against the deep bronze foliage. *Gazania splendens* was in great request some years ago, and is a handsome flower, but its place has been filled by dwarf *Marigold Legion of Honour*. There is no better plant in its particular shade than this, alike for free flowering and endurance. *Tropaeolum Ball of Fire* is a trailer with bright crimson flowers and is very free. In *Pelargoniums* perhaps two of the best for small beds are *West Brighton Gem* and *Manglesi*, and in annuals two useful things are *Portulaca* and *Petunia nana compacta*.—E. BURRELL, *Claremont*.

Chrysanthemum

Earl of Arran.—This superb Japanese *Chrysanthemum* is a flower of much beauty, and is a pleasant break away from the many coarse blooms of recent years. It is said to represent the beauty and refinement

of both Mme. Von André and Edith Tabor, which are well known exhibition varieties. The flowers are very large, with long, graceful, drooping florets of good width, curling, and slightly incurving at the ends. The colour is a bright canary yellow, and the flower may be considered a distinct acquisition. The Royal Horticultural Society's floral committee granted this novelty an award of merit last autumn.—D. B. CRANE.

Magnolia conspicua in Ireland.

Mr. H. Clements, Killadon, Celbridge, Ireland, kindly sends a photograph of a *Magnolia* growing on his house. It comes in bloom early in April, and is generally completely covered with flowers. The tree is upwards of 40 feet high. The photograph was taken last year.

Production of double flowers.

Mr. Douglas contributed the following additional observations on this subject to a recent meeting of the scientific committee of the Royal Horticultural Society. He said:—"I can speak of the *Carnation* and *Picotee* only from my own experience, and from what I have seen of the garden or German Stock. I have worked upon the *Carnation* over thirty years, raising a considerable number annually, always saving the seed from the best double flowers and the very best varieties in the various classes. Taking the average of seasons I get 5 per cent. double flowers as good as the parents, 12 per cent. single flowers, of every shade of colour favoured by the *Carnation*. This would leave 83 per cent. of double flowers, but in no respect equal in form to the parents. The finest lot of choice varieties I ever had was in a hot, dry season. The plants were well supplied with water, and many one-year-old plants produced upwards of 200 blooms each. I remember discussing the production of Stock seed some ten years ago with Mr. John Ward, then, as now, a market grower at Leytonstone in Essex. Speaking from his own experience, he informed me that he always obtained the largest percentages of double-flowered Stocks when he saved the seed from plants grown in pots. Subsequently I was being shown over a large establishment in Germany, where enormous quantities of seed were saved, and I found that all the best ten-week Stock seed was saved in Germany exactly as Mr. Ward saved his seed in Essex.

Thousands of flower pots about 5 inches or 6 inches in diameter were arranged on a wooden staging fully exposed to the open air, and I was also informed that it was necessary to grow the plants in this way to make sure of the seed producing a large percentage of double flowers. The Poppy has a greater tendency to produce double flowers than any other plant known to me, and certainly the tendency is greater in rather exhausted soil, as can easily be proved by allowing a bed to sow itself from the previous year's bloom, and the plants to flower on the same ground without making an addition of soil or manure to the bed."

Snowdrops diseased.—Dr. W. G. Smith sent the following report to the recent meeting of the scientific committee of the Royal Horticultural Society upon specimens submitted to him:—"I regard the Snowdrops sent from last meeting of the scientific committee as attacked by the Botrytis stage of the fungus *Sclerotinia galanthi*. This was described and figured by Worthington G. Smith *Gardeners' Chronicle*, 1889; George Massee describes it in the 'Kew Bulletin,' No. 124, and in his latest text-book of plant diseases. There is no need for me to submit a formal report, the name and above references should be enough to mention in the Royal Horticultural Society's Journal report. I found the Botrytis form of spore working its way up the green parts of plants sent; now these are a shapeless mass with the Sclerotium stage present in numbers. As a remedy, I can suggest nothing better than the measures mentioned about a year ago in a report to the committee on Daffodils attacked by the same disease."

Cutting Roses from forced plants.

—It may not be amiss at this season of the year to remind those who despatch cut Roses long distances, or even who use them for house and table decoration, to be careful to place the blooms in vessels of water a few hours before they are required. The usual practice is to cut all flowers that are developed before 10 a.m. in the day, and set them in jars of water in cupboards in a cool room or store house until the following morning. By this time they have drawn up a quantity of water, and are thus fit to stand the heat of a room much better. Whether the flowers are required or not they should be cut from the plant when almost full, as this helps on the second flowering considerably. Should cuttings be required for insertion, the growths with the developed bloom are the most satisfactory.—P.

Daffodils in Ivy.—Carpets of Ivy are now often found in pleasure grounds, furnishing spaces under trees that were formerly absolutely bare, but one does not see the greenery as a rule relieved by a bit of colour. The idea occurred to me some years ago, when work of the above description had to be taken in hand and was the more necessary because the greater part of our sixty acres of pleasure ground is a mass of green undergrowth of Laurel and Rhododendron. Lebanon Cedars and evergreen Oaks are the worst offenders in the matter, the ground beneath being so very dry owing to the dense foliage, and if flowers are to appear above the Ivy the soil must be broken up at least 6 inches and receive a thorough soaking before operations are commenced. Daffodils of vigorous habit that throw the flowers well up as Princes in the trumpets and Barri conspicuus in the chalice cup section, are best for the purpose, and the small-leaved, low-growing Ivy should be used; a very vigorous Ivy is apt to smother the flowers.—E. BURRELL.

Hampstead Heath Protection Society.—This society held its fourth annual general meeting on Tuesday, the 19th inst. Lord Mansfield, patron, in the chair. After the usual business was completed, Sir Richard Temple, K.C.S.I., moved: "That this society are of opinion that any tunnelling under Hampstead Heath, or within its boundaries, for the purposes of the proposed tube railway extension constitutes a present risk, and will involve grave danger in the future to the natural aspect and rural charm of the Heath, which are an invaluable inheritance for all Londoners, and should be preserved inviolate."

Sir R. Temple pointed out that in the American towns these electric railways were accompanied by the development of the suburbs as places of amusement, with big restaurants and saloons of many kinds. In this way the promoters recovered their expenses. In short, said Sir Richard, "Their object is to Vauxhall Hampstead Heath." The resolution was carried unanimously. A general discussion on points concerning the Heath followed. Mr. W. Field, A.R.W.G., regretted the continual trimming and lopping of the trees on the Heath, and mentioned as a contrast the noble sweep to the ground of the trees in Kin Wood. Mr. J. S. Lister mentioned that the bare banks of the Leg of Mutton Pond were being planted with native shrubs and grass, by order of the London County Council, and he hoped that some worn spots on the Heath would have Furze planted on them. A proposed ride round the edge of the Heath was discussed, and the following resolution was carried unanimously:—"That this meeting of the Hampstead Heath Protection Society urge the London County Council to reject any proposal for constructing any further horse ride on Hampstead Heath." In reply to the vote of thanks to the chairman, Lord Mansfield said that the more protests they made in these matters the more they were likely to win, and whatever anyone else did, they should go on opposing the electric railway. For their own sake and for London they could not do too much to protect the greatest blessing Londoners possessed—Hampstead Heath.

The R.H.S. Fruit Show.—I have the Royal Horticultural Society's circular referring to the need there is for increased outside subscription to help maintain the Great National Hardy Fruit Show to be held at the Crystal Palace in October next. It is a pleasure to me to help that cause in a small way, and I would very gladly give more if there were proportionate encouragement given, which has not hitherto been offered to those who can only compete in the small collections and single-dish classes, as only two prizes are in most cases given in these divisions, which is anything but creditable to the Royal Horticultural Society, which poses as the head and representative of all horticultural societies in the United Kingdom. For some years I have given close attention to these single-dish classes, and found in many cases that the number of dishes in one variety ran to two dozen and upwards, which of itself was sufficient to warrant that more than two prizes should be given. The competitor, too, who can take the premier of twenty-four dishes has the full privilege of entering in every single-dish class, and, as happened last show, carried off over fifty of these prizes. The big grower is enabled to do this owing to the extent of his resources, and perhaps climatic advantage, which one in every ten has not, so it goes without saying that there should be more than three prizes offered in the single-dish classes. The expense of going to the show is as much to the one exhibitor as the other, and if the single-dish competitor does get a prize it far from compensates for the two journeys. It may be argued that the show does not profess to meet these expenses with prizes, and that it is good for gardeners to meet in friendly rivalry and interchange ideas that may in time lead to a more correct knowledge of what they have on hand. Doubtless the object and aim of the show is to benefit gardeners and all connected with gardening, yet the society should not lose sight of the fact that it is under an obligation to those who make the show with their exhibits. Every reasonable inducement should be offered, not only to maintain what they have hitherto done, but extend it in the future. I myself am interested in fruit culture and fruit shows, and am therefore desirous to see no falling off in these great gatherings at the Crystal Palace.—ANDREW KEMP, *Coolhurst Gardens, Horsham*.

The new edition of "Thompson's Gardener's Assistant."—The Gresham Publishing Company informs us that the third volume of the new edition of "Thompson's Gardener's Assistant," which is coming out under the editorship of Mr. William Watson, Kew, and which has been considerably delayed in publication,

will be ready next month. The delay that has taken place, Mr. Watson explains, has really arisen from the effort to have the work thoroughly up to date, to secure which the final revision of certain important articles was postponed until the last moment, when, unfortunately, it was found impossible to get these articles put through with sufficient expedition owing to the illness of some of the contributors. The necessity of waiting for certain plants to be in condition for illustration has also caused delay. The editor does not anticipate that similar delays will occur in the case of the remaining volumes.

Veronica arborea.—Mr. Lindsay, Murrayfield, exhibited recently before the Edinburgh Botanical Society, flowering sprays of the shrubby *Veronica arborea*, said to be the first produced in this country.—B.

Iris reticulata major.—Herr Max Leichtlin introduced this about ten or twelve years ago, whether from his collector in the Caucasus district or a garden development I do not recollect, but I bought a few as soon as they were offered, and these produced flowers fully twice the size of the type—I mean as to the mass of the flower, not the dimensions. My first bulbs soon died out from the fatal ink mildew, which takes on an average two-thirds of my stock of *I. reticulata* every year. What I have had since as var. major have not been nearly as large comparatively. It must be borne in mind that in many species what is called var. major is merely a matter of selection, often picked out in the same spot as the type. I may instance among other species, *Anthericum liliastrium*, St. Bruno's Lily, which grows together with the type, and every intermediate size in the Vallée de Lys, near Luchon, where I have seen and selected them in flower. Of course, extremes may be made to show a great difference. For those who have the happiness to be unacquainted with what I call "ink mildew" I may say that it first appears just like stains of ink on the tunic of the bulb, then it eats holes into the bulb, and by the end of the season only the tunic remains filled with dry black dust. New soil and a hitherto untainted corner of the garden may escape this contagious pest for a time, but the species is discovered sooner or later. The mildew is well known to science, and I believe is confined to *Iris reticulata* and its closely allied forms.—C. W. D., *Cheshire*.

I have not seen any reference to the size of the bulb in the remarks on this subject. I know from experience that if I plant very large bulbs in the soil and situation best suited to them I have much larger flowers, on longer stems, than those produced by an average or small bulb. I have grown *Iris reticulata* in thousands for years, and have failed to procure the major variety.—SOUTH HANTS.

The raiser of *Iris reticulata* major.—In reply to Mr. Jenkins' question on page 178, I may state that the late Rev. J. G. Nelson of Aldborough was the raiser of this variety. The typical plant is well figured in the *Botanical Magazine*, and in 1872 was distributed in quantity by Dr. Von Regel. *I. reticulata* major is distinct from the type, larger, more robust in growth, the flowers fuller, and by the flat arrangement of the falls presenting a larger surface of colour. "Aspasia" (violet-blue) and "Melusine" (sky-blue) are also desirable varieties. The sub-species *I. r. Krelagei* comes from the Caucasus, and is not so much esteemed on account of its dull purple-coloured flowers, though among seedlings very beautiful and bright shades may occur.—MAX LEICHTLIN, *Baden-Baden*.

Mistletoe in the Oxford Botanic Gardens.—Enquiries having been made as to the origin of the numerous plants and varieties of *Viscum album* now on various trees in these gardens, the following observations have been received from Mr. T. E. Jefferies, Oxford, by the scientific committee of the Royal Horticultural Society:—"I understood from the late Mr. W. H. Baxter that his father established the plant on Apple trees growing in a slip of ground outside the garden western boundary wall many years ago. Now it is met with in, or adjacent to, the gardens on perhaps a greater number of different kinds of trees than could be seen in a similar area any-

where, and probably the diversity of their forms is equally exceptional. On fresh specimens the fruits vary considerably in size, the largest fruited plants being rendered far more striking as regards their whiteness, or, as may be said, their effective translucent appearance, more especially where they aggregate in clusters and become distinguished by being so prolific." Mr. Burbidge records the fact of *Viscum* growing on the following trees in the Oxford Botanic Gardens:—"Ostrya vulgaris, Horse Chestnut, *Pavia flava*, Lime, Maple, Hawthorn, Apple, Willow, Beech, and *Viburnum* sp., but very weakly on the last two. Outside the gardens it grows on two Poplars."

Plants from Botanic Gardens, Dublin.

The following interesting plants, &c., were sent by Mr. Burbidge to a recent meeting of the scientific committee of the Royal Horticultural Society, with the following remarks:—"1. Here-with I send two or three sheets of Birch bark paper, from *Betula utilis*, D. Don (= *Bhjopattra*, Wall). It is written that paper was first invented and made by the Chinese; but I suppose the Birch trees of both East and West (*vide* Longfellow's poem of 'Hiawatha'), to say nothing of the wasps, made paper long before even the Chinese! Note how sensitive it is to heat and moisture. It is difficult to prevent its becoming a natural scroll. Was it the origin of all scrolls of bark, and afterwards of animal skins, used as a writing surface or paper? We have three trees, the largest 20 feet high, and we value them very highly, not only for their silver-stemmed beauty, especially during winter, but especially because they were born and raised here from seeds, which Sir J. D. Hooker, K.C.S.I., &c., sent to the gardens eighteen years ago. In the same packet came seeds of the Himalayan Bird Cherry, *Prunus* (*Padus*) *cornutus*, with its old bronze-coloured bark, now 25 feet high, and it flowers and fruits freely every year. 2. Flowers of the old greenhouse plant, *Canarina campanulata*, of the Canary Island (1696), *vide* 'Botanical Magazine,' t. 444. 3. *Salvinia natans*. As to this, note its waterproof coating of short hairs, which carries down an air film if the plant be temporarily submerged; note also its lifeboat-like habit of 'righting' itself when placed into a vessel of water. Like 'Duckweed' (*Lemna*), *Azolla*, and other aquatic, it robs all submerged plants of light, &c., by its (and their) habit of forming a dense green mosaic on the surface of the water. *Azolla* kills or crowds out *Lemna* minor here in sheltered open-air tanks. 4. *Acacia sphaerocephala* (? = *A. cornigera*), 'Buffalo-horn *Acacia*,' myrmecophilous (*vide* Belt, T., 'Naturalist in Nicaragua,' 8vo, London, 1874). Note the big hollow spines, in which ants live; and also the yellow waxy secretion and exudation at tips or apices of young leaflets. I do not think this substance has received any chemical study. This 'ant-manna' seems to be of no actual or direct service or relief to the *Acacia*, as are some secretions; the resinous secretions that at times close the absorptive and secretive glands on the leaves of the *Rosa alpina* for example. In any case it would be a step forward to know exactly what this yellow wax-like leaf product really is. 5. An Indian 'Dodder,' growing on Ivy in cool greenhouse here, *Cuscuta reflexa*. Hooker, in 'Himalayan Journals,' Minerva Library, 1891 edition, page 27, says:—"Dodders (*Cuscuta*) covered even tall trees with a golden web." This species is so rampant that it might have been one of them. It will grow on Ivy, Pelargonium, Cotoneaster, Calceolaria, Carex, Jasmine, Forsythia, Cytisus, Fuchsia—indeed, nothing seems to come amiss, and it is even self-parasitic (like the Mistletoe), this phase of its life history having been discovered by Dr. Henry H. Dixon of the Physiological Laboratory, Trinity College, Dublin, a few years ago, and described in the 'Proceedings of the Royal Irish Academy,' as also in 'Notes from the Botanical School of Trinity College, Dublin,' No. 4, January, 1901, chapter xvii., page 146. The plant flowers freely late in summer or autumn, the flowers being white, and not unlike a small Lily of the Valley (*Convallaria*) bells, having a honey-like perfume, which is very attractive to flies of many kinds. *Azolla* flacu-

loides, on water in muddy outdoor tanks here, is now a lovely copper-red colour. I see Hooker (loc. cit. supra), page 255, mentions Lake Cat-superrri, altitude 7,150 feet, bordered by a broad marsh of bog moss, in which was abundance of *Azolla*, colouring the waters red."

Hepatica (Anemone) angulosa alba.

The Hepaticas are such charming spring flowers that no apology seems needed to crave space for a reference to this lovely but scarce variety of the large-flowered Anemone or Hepatica angulosa. It is as yet too expensive for purchasing in quantity, but even from a solitary plant in bloom one can readily picture what would be the effect produced by a dozen or two of large size, and giving freely their large, white, flat blossoms. I owe this plant to Herr Max Leichtlin, although it is obtainable in the trade in this country with some little trouble and some uncertainty of the supply being forwarded when it is wanted. It appears, so far as I have grown it, to flower as freely as the typical blue angulosa. In some gardens *A. angulosa* blooms very sparsely, although in others it covers itself with flowers. There are, really, two forms of angulosa, one which is of rather running habit, and another which is less inclined to stray. The latter is the freer bloomer. I think the white form here is of the same character, and it is very pretty. —S. ARNOTT, *Carsehorn, by Dumfries, N.B.*

A Sweet Pea Society.—Are flower lovers losing their heads, or why is it that so many now seem mad to create a special society for apparently every flower that grows? Have we not of this specialistic kind Chrysanthemum, Rose, Dahlia, Carnation, and Auricula societies? And now it is proposed to create yet another for the worship of the Sweet Pea. For much as these various flower fanciers may object to be classed as fetish worshippers, yet what else are they? To be a lover of all flowers and a true horticulturist is good, but to have no soul above one flower only, and of that to make it a god and to fall down and worship it, is mere folly. What can a society do to elevate or to improve or to extend the culture of the Sweet Pea? All the societies in the world cannot accomplish one-half so much as Mr. Eckford has done to develop and improve this charming garden flower, and our seedsmen have made his beautiful varieties known in every garden almost all the world over. The Sweet Pea can never be regarded as an exhibition flower in the same sense as the Chrysanthemum is, as in a large or small building for that matter the flowers lose that fresh pure beauty seen in the garden. What nonsense it all is, especially in relation to so trifling a member of our great floral family as is a mere hardy annual. Have these great enthusiasts no concern for flower lovers' pockets? Already the demands on one's pecuniary resources are far too numerous from similar societies. Then where will it all end? No sooner is a Sweet Pea Society formed than some other flower will be found to which a new society must be dedicated. And next we shall have Grape, Apple, Pear, Gooseberry, Pea, Potato, Tomato, and other products made objects of special worship. Well may horticulturists wish to see this frenzy checked, so that any advance is likely to be slow. Nor should we despise the flesh coloured form called *S. bifolia carnea*, which often passes muster for the variety *rubra*. It is pleasing with its rosy tinted little flowers, and I always look for its appearance with interest. One cannot say, however, that it can take as high a place in our favour as the pink *S. bifolia rubra*, even if we eliminate the fact of its comparative scarcity from our minds, and make our estimate depend solely upon its intrinsic merit as a garden flower. A few flowers have just opened. They remind one, moreover, if reminder were needed, which is not the case, of the kindness of a great hardy flower gardener who sent the first bulbs to me. They are thus doubly prized. Their pretty star-like blossoms look quite beautiful in the sun on an exceptionally fine March day. Not that one has not had a pink *Scilla bifolia* for days, or rather weeks, for Pink Beauty has been in flower for two or three weeks. It is one of the

their endurance, and, not least, the average size of the flowers. Those who sow thinly know of its great value so well. Still, no matter how many sermons on the importance of thin sowing may be preached, the average grower will persist in sowing far too thickly. Then another test would be furnished by sowing clumps of the same number of seeds in ordinary shallow-dug soil, and in soil that had been prepared by trenching and giving low down ample dressings of manure. Here, again, tests of flower production, size of blooms, and general endurance would be most interesting and educational. We want to see Sweet Peas far more popular than is yet the case, but we also want to see the culture much improved, as also the selection of varieties grown. When Sweet Peas are grown, certainly it is better to have the very best. —HORRUS.

Two good Pears.—I was very pleased to read Mr. Owen Thomas' excellent note on page 172 about two of our best winter Pears, *Nouvelle Fulvie* and *Olivier de Serres*. Such notes are of great value to those who need late Pears and do not want to plant many varieties. With us *Nouvelle Fulvie* is a great favourite, and I thoroughly agree with Mr. Thomas as to its quality, and though not a handsome fruit, it is most valuable. I was much amused at one of the Royal Horticultural Society's shows, held at the Crystal Palace, to hear a conversation about the foolishness of staging such Pears as *Nouvelle Fulvie*, *Pitmaston Duchesse* being referred to as "something like exhibition stuff." I am glad the society recognises the later varieties. What are more valuable at this season when there are so few good fruits at command? I believe *Nouvelle Fulvie* is not a success in some places. Here it is excellent as a pyramid cordon or wall tree, but, as advised on page 172, the fruit must be left very late on the trees. I also think it is superior to *Olivier de Serres*, but the last-named is the later fruit of the two, but with me the tree does not crop so freely. There can be no question whatever as to the value of these two varieties when given a well-drained soil. —G. WYTHES, *Syon House Gardens, Brentford*.

Scilla bifolia.—This little squill is so early and so beautiful that it ought to have a little more recognition at the hands of those who desire to have their gardens bright from the dawn to the close of the year. Although its individual flowers are small, the best forms produce a good many flowers in a raceme, and the combined effect of a clump or mass is very satisfying indeed. Then, without saying much about the variations in the blue colour of the type plant and its nearly allied forms, we have also the varieties of different colours, which, properly used, will add much to the enjoyment of their possessor and his friends. The ivory white blooms of *S. bifolia alba* are very pretty indeed, and when plentiful enough may well be associated with the others in large groups on the grass or in the border, besides giving a charm to the rock garden at an early season. Some improvement in size may well be looked for, and that friend of bulb lovers, Mr. James Allen, has done a little to help us in this respect. Unfortunately, it is not a free seeder in most gardens, so that any advance is likely to be slow. Nor should we despise the flesh coloured form called *S. bifolia carnea*, which often passes muster for the variety *rubra*. It is pleasing with its rosy tinted little flowers, and I always look for its appearance with interest. One cannot say, however, that it can take as high a place in our favour as the pink *S. bifolia rubra*, even if we eliminate the fact of its comparative scarcity from our minds, and make our estimate depend solely upon its intrinsic merit as a garden flower. A few flowers have just opened. They remind one, moreover, if reminder were needed, which is not the case, of the kindness of a great hardy flower gardener who sent the first bulbs to me. They are thus doubly prized. Their pretty star-like blossoms look quite beautiful in the sun on an exceptionally fine March day. Not that one has not had a pink *Scilla bifolia* for days, or rather weeks, for Pink Beauty has been in flower for two or three weeks. It is one of the

"creations," as Mr. Burbank would say, of that wonderful garden at Shepton Mallet whence have come so many lovely Snowdrops and other bulbous flowers. The ordinary—a misnomer this—*bifolia rubra* is a shy seeder also, so that the production of the lovely Pink Beauty is a victory in more ways than one. S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

THE FERN GARDEN.

THE MAIDEN-HAIR FERN.

IN this solitary hardy member of a large family we have as it were a warm-blooded exotic which can only tolerate our climate under specially favourable circumstances, in point of fact it is far more tender than many exclusively exotic *Adiantums*, for the gold-dusted *A. Williamsii*, which so much resembles it in make, survives where *Capillus veneris* perishes, as also do *A. chilense*, *assimile*, *formosum*, &c., the moral of which introduction is that if we want to find this Fern we must search our warmer coasts, where the Gulf stream baffles Jack Frost persistently, and if, when we have it, we want to retain it, we must keep it warm in the winter. It is entirely distinct from any other of our native Ferns, the fronds being cut up into distinctly stalked fan-shaped divisions with slightly cut edges, and the spores wrapped up in short marginal lines in the rolled back edges of the pinnules. Its habitat is the cliffs and rocks of the sea shore, which gives the clue to the soil it needs for its thin creeping rhizome to penetrate and permit it to establish itself properly, i.e., an open rubbly compost of vegetable mould and loam. Despite its comparative rarity it has not been chary in giving us improved editions of itself even *éditions de luxe*, since *Cornubiense*, the plumose form, has dared to make a bold and fairly successful bid as a rival to that Queen of *Adiantums*, *A. Farleyense*; so far, however, it has failed to yield a crested form, unless that mysterious Fern *A. luddemannianum* belong to the species.

Name.	Locality.	Finder or raiser.	Description.
Admirabile	..	E. J. Lowe (r)	Very large form.
Cornubiense	Hayle	Trevethick (1868)	Plumose a la Farleyense. A splendid form.
Daphnites	..	E. J. Lowe (r)	Erect fronds, crowded large pinnae, very distinct, sometimes proliferous on edges.
Footii	Co. Clare	Foot	Very large pinnules.
Grande	..	..	..
Imbricatum	..	E. J. Lowe (r)	A dwarf imbricate dense form, something like <i>Cornubiense</i> , proliferous on sites of sori.
Magnificum	Co. Clare	..	A foliose variety. C. T. DRURY.

THE HOME OF LYGODIUM SCANDENS.

A CLIMBING FERN.

IN the artificial cultivation of any exotic I venture to think that to obtain the greatest success it is essential that we should, at least, have some knowledge of the conditions under which the particular plant is found growing naturally, and that we cannot be greatly in error in striving to reproduce those conditions as closely as possible in our efforts to develop its highest natural beauty.

It is not often that written cultural directions exactly coincide with the conditions under which a given plant is found to flourish in its native clime, whilst they are not infrequently diametrically opposed to them, bringing about disastrous results.

In the case of Ferns, how often does one see glass houses crammed with plants from all parts of the world cultivated under the same conditions with regard to soil, temperature, moisture, and shade, at total variance with the requirements of, it may be, one-half of them.

I believe it is a most important circumstance in the education of young gardeners, and one too often lost sight of, that they should, as far as possible, be instructed as to the natural habitats

of the exotics they are now so largely called upon to cultivate in an alien climate. I trust, therefore, that the following notes may prove of some little interest to the readers of THE GARDEN.

The Fern under notice, *Lygodium scandens*, is a beautiful object in our greenhouses when well grown, but I fear it is too often seen as a sickly, stunted thing, bearing but a faint resemblance to the plants I have seen in the wilds of Malabar, where it is a veritable "thing of beauty."

In South India, at an elevation of from 3,000 feet to 3,500 feet, the plant is found in abundance, growing in great entangled masses in the marshy borders of "paddy" or rice fields. Its climbing inclination is, of course, undoubted, and to gratify this Nature has provided shrubs of various kinds which grow on these marshy border lands, and which the climbing Fern is not slow to take advantage of. If the natural foliage of these shrubs be frequently put out of evidence altogether a substitute is provided in the masses of entangled *Lygodium* fronds, producing an effect strikingly beautiful and difficult to describe. Fancy a rice field clothed with its indescribable green, surrounded by a belt of evergreen shrubs, a large proportion of which, draped with festoons of the



A VARIETY OF OUR HARDY MAIDENHAIR FERN
(*ADIANTUM CAPILLUS VENERIS IMBRICATUM*).

fertile and barren fronds of the *Lygodium scandens*, and these belts sometimes extending to acres, and you have, I think, before your mind's eye a Fern picture worth seeing.

I shall never forget my first introduction to this plant as I have been trying to picture it in its natural home. I had seen it and tried to grow it in England many a time previously with but miserable results, but now the plant was before me in Nature's guise, and what a difference! The distinction between my system of cultivation in England and that of Nature in India was at once apparent and soon grasped.

I have already stated the elevation at which the plant is found in abundance in South India; it is frequently found at lower elevations, but hardly ever at a higher range. It is subject to an annual rainfall of some 130 inches during the south-west monsoon between the months of June and September. With the exception of a few showers the rest of the year is dry, but the *Lygodium* does not suffer on that account, from the fact that its roots are always in ground containing abundance of moisture, and its fronds are refreshed during the long rainless season by the heavy mists which hang over the land at night and during the early hours of the morning. The range of temperature during

the dry season is very great, so that I imagine the plant under cultivation in this country would do better under somewhat restful conditions during part of the year, and without being subjected to quite so much heat as is frequently afforded it. As to training, I have, rightly or wrongly, a horror of all such contrivances as wire balloons, &c. A few well-chosen sprays of Beech, or such like, stuck into the pots would show the vagrant fronds to greater advantage. J. LOWRIE.

AMERICAN NOTES.

THE THREATENED DESTRUCTION OF THE BIG TREES OF CALIFORNIA.

BEFORE the glacial period the genus of big trees called *Sequoia* flourished widely in the temperate zones of three continents. There were many species, and Europe, Asia, and America had each its share; but when the ice fields moved down out of the north the luxuriant vegetation declined, and with it these multitudes of trees. One after another the different kinds gave way, their remains became buried, and when the ice receded just two species, the Big Tree and Redwood, survived. Both grew in California, each separate from the other, and each occupying, in comparison with its former area, a mere island of space. As we know them now, the Redwood (*Sequoia sempervirens*) lives only in a narrow strip of the Coast Range, 10 miles to 30 miles wide, extending from just within the southern border of Oregon to the bay of Monterey, while the Big Tree (*Sequoia washingtoniana*) is found only in small groves scattered along the west slope of the Sierra Nevada mountains, from the middle fork of the American river to the head of Deer Creek, a distance of 260 miles. The utmost search reveals but ten main groups, and the total number of sizeable trees in these groups must be limited to figures in the thousands. It is, moreover, the plain truth that all the specimens which are remarkable for their size do not exceed 500. The Big Trees are unique in the world—the grandest, the largest, the oldest, the most majestic, graceful of all trees—and, if it were not enough to be all this, they are among the scarcest of known species, and have the extreme scientific value of being the oldest living representatives of a former geologic age. It is a tree which has come down to us through the vicissitudes of many centuries solely because of its superb qualifications. Its bark is often 2 feet thick and almost non-combustible. The oldest specimens felled are still sound at the heart, and fungus is an enemy unknown to it. Yet with all these means of maintenance the Big Trees have apparently not increased their range since the glacial epoch. They have only just managed to hold their own on the little strip of country where the climate is locally favourable.

At the present time the only grove thoroughly safe from destruction is the Mariposa, and this is far from being the most interesting. Most of the other groves are either in process of, or in danger of, being logged. The very finest of all, the Calaveras Grove, with the biggest and tallest trees, the most uncontaminated surroundings, and practically all the literary and scientific associations of the species connected with it, has been purchased recently by a lumberman, who came into full possession April 1, 1900. The *Sequoia* and General Grant National Parks, which are supposed to embrace and give security to a large part of the remaining Big Trees, are eaten into by a sawmill each and by private lumber claims amounting to 1,172 acres. The rest of the scanty patches of Big Trees are in a fair way to disappear—in Calaveras, Tuloume, Fresno, and Tulare counties they are now disappearing—by the axe. In brief, the majority of the Big Trees of California, certainly the best of them, are owned by people who have every right, and in many cases every intention, to cut them into lumber.

The lumbering of the Big Tree is destructive to a most unusual degree. In the first place, the enormous size and weight of the trees necessarily entails very considerable breakage when one of them falls. Such a tree strikes the ground with a force

of many hundreds or even thousands of tons, so that even slight inequalities are sufficient to smash the brittle trunk at its upper extremity into almost useless fragments. The loss from this cause is very great, but it is only one of the sources of waste. The great diameter of the logs, and, in spite of the lightness of the wood, their enormous weight, makes it impossible to handle many of them without breaking them up. For this purpose gunpowder is the most available means. The fragments of logs blown apart in this way are not only often of wasteful shapes, but unless very nice judgment is exercised in preparing the blast, a great deal of the wood itself is scattered in useless splinters. This waste, added as it is to the other sources of loss already mentioned, makes a total probably often considerably in excess of half the total volume of the standing tree; and this is only one side of the matter.—*The Bulletin of Agriculture.*

IN THE PORT ROYAL MOUNTAINS, JAMAICA.

HERE winter is but a name. The temperature ranges for the most part between 70° and 80°. At this elevation (2,000 feet) no house has a fire-place, and we live day and night with open windows. Seasons of unusually vigorous growth follow the spring and autumn rains, but a catalogue of names of plants in flower would hardly change from January to December. In "A Jamaica grows Garden" a general idea has been given of what with me. I now propose to write of just those things which are peculiar to special times of the year.

First must stand the Poinsettia—six months green and six months red, as the saying runs. In September it begins to blush, putting out narrow strips of new leaves faintly pink, increasing in length, width, and colour through October, and in November bright with exceeding great glory. The usual single comes first, followed about Christmas by the still more gorgeous double, which has been already figured in *THE GARDEN*. In March the brilliancy of the Poinsettias is passing, or past, and they resume their garments of sober green. "The place looks so different, what have you done to it?" asked, one day in winter, a friend who was accustomed to see it only in summer. "Done? Nothing; it's the Poinsettias." They are chiefly massed down below the house, but a single one stands fronting it on the very edge of Bushatahl precipice. It just allows the river to show here, and its red head looks so well against the far-off background of indeterminate green, where the eye first strikes down into the valley half a mile away. It is one brilliant spot of colour in a landscape of quiet green. I always rejoice in the lucky chance which placed it so happily.

In combination with Poinsettia that finest of Sunflowers *Tithonia diversifolia* is lavishly used. It overtops it in height, and bears a wealth of small (5-inch to 6-inch) flowers, swaying on stalks of different lengths. Most Sunflowers may be described as effective, but coarse. This one is graceful, canes lightly poised, leaves prettily cut. It throws up a forest of canes, and is a thing of such furious and rampant growth that I am reluctantly compelled to send it, out of the garden proper, into the adjacent shrubbery. It makes its value felt up to any reasonable distance, say 300 or 400 yards. A troublesome thing to keep in order. Wet presses down the slender heads of the longest canes, which reach to 18 feet or 20 feet. Wind throws them over. The cutlass is in constant request to lop what falls on other shrubs and plants. It smells of honey, exactly like *Buddleia*, and its orange flowers make *Allamanda* look primrose colour. *Tithonia* is at its best in November and December. *Lilium trigynum* is another winter plant. It is massed all together on a bank above the house, and is in beauty for some weeks each side of Christmas. For the rest of the year it does not give a single flower. The colour is a good, full, pure yellow. It is a neat little bush, increasing very quickly by running suckers from the root.

November 1.—The three young pussies came as

usual, asking to be taken their morning walk. Not only is it a pleasure to comply with their request, but it is also expedient. After their walk they lie down contentedly in the semi-shade of a bush, but if kept waiting they gambol and romp, heedless of young plants, seeds, and cuttings. So away we go down the hill at eight o'clock this lovely November morning, the sun shining, birds singing, temperature 73°; past the small pond at the bottom with its dozen or so of white Water Lilies and two or three blue ones; past some *Eucharis* clumps in a swampy place, as swampy as can be managed on this well-drained level, where soil is limestone pounded to a fine gravel, under the shade of trees; past a *Monstera deliciosa* with leaves that look like a sampler of button-holes, and of whose fruit beware, for it roughs tongue and throat with minute flinty darts hidden in the tempting Pine-like flesh; past a lovely group of wild *Begonia nitida*, and we stand under "Dripping Rock," before a patch of *Sansevieria zeylanica*, which is what we have come to see. This has a stiff, leathery, tough, dark green leaf, prettily mottled. Young leaves are light green, and the mottling almost white. The whole thing is rather like *Aspidistra lurida variegata*. Last year it flowered for the first time, and this year there are several spikes, studded thick with tattered flowers recalling Honeysuckle, satin in texture, and glittering where the petals turn over and catch the light, milk-white tinged with green. Of plants familiar to me most like Butterfly Orchis (*Habenaria bifolia*). This should be a desirable pot plant for people who cannot afford much change. Nothing hurts it except sun, and its stiffness, which is by no means ungraceful, promises well for withstanding the hot dry air of rooms. I should think it would be tolerant of reasonably low temperatures; I have seen it at 4,000 feet, where the night reading may be perhaps 50°. From its behaviour here I should say it might very likely not flower. It seems to want well establishing, is even then shy, and only flowers once a year—October to November. It looks equally happy in the driest places I can find, and with its roots soaking in water, so it would be hard to hurt by over-watering or under-watering. The leaves are few but well set up, and they show their backs where the mottling is strongest—a plant, above all things, easy to sponge. Who that loves his poor struggling charges in London or other great towns has not spent weary hours sponging his *Aspidistras*, supporting the leaves on flattened hand, and, in spite of care, often slitting a tender young

one still curly, to say nothing of damage to shirt-cuffs. Stiff *Sansevieria* would be an easy job.

The October rains have not been heavy, and there are still sprays of Coralilla (*Porana paniculata*) to be had. Just what I want, cats; and then off we go up to the house, I winding up the Fernery path, the kittens taking short cuts and scrambling up the rocks. The walk done, each one goes contentedly to his own chosen spot, there to wait till midday and breakfast. So there is a season of rest to look round undisturbed. First let me note *Jasminum pubescens* at the front door, growing up and through a Seville Orange. Though deficient in scent it is to the eye most pleasing of all its tribe, with long sprays thickly set with bunches of starry blossoms. I have counted the rays in these stars over and over again and find that seven is the commonest number, eight common, nine and six both rare. The impression upon the eye, from the close crowding of the stars, is of an infinite number of rays. A beautiful and distinguished plant, equally satisfactory as shrub, or, as here, half climbing. It carries a few flowers at most times of the year, but from now to January it is at its best. The Orange is in fruit—it always is. That is the advantage of Seville over the Sweet Orange, which seldom keeps its fruit into the summer months.

Shoeblacks (*Hibiscus Rosa sinensis*) are in great beauty. There are several varieties of this grand shrub. A large single salmon-buff with claret eye claims attention, and the immense double red is always a wonder, but none gives me more satisfaction than the old single red, whose perfect colour is perhaps due to the semi-transparency of the tissue of the petals. The bushes are about 12 feet high, and every flower is displayed to advantage owing to the open, uncrowded growth. As I stand between one of these Shoeblacks and a Poinsettia I see that the coloured leaf of the latter looks opaque and therefore less refined. I pick one and bring it up to the Hibiscus flower. Now I see what it is. The leaf is a uniform surface, distemper laid on by the workman; the flower is the finished picture of the artist. As a display of colour the Poinsettia bush is, of course, incomparably brighter.

W. J.

HARDY FRUITS IN SEASON.

LATE APPLES.

BLENHEIM ORANGE.—Although not generally admitted to be a dessert variety, I should



LORD BURGHELEY APPLE. (About two-thirds natural size.)

myself vote for its inclusion in the choicest collection of dessert fruit. In size, colour, and appearance, when well grown, it is unsurpassed by any other Apple in its season. It is ripe from Christmas to May, and if not of the best flavour it is certainly most refreshing, juicy, and sweet, infinitely more so in this respect than are the majority of the dry and tasteless imported Apples on which so much English money is unnecessarily frittered away. As an orchard tree, it will in time form a specimen of the dimensions of a forest veteran, and I have known many grand old trees give a return of fifty bushels and upwards of fine fruit every year. It is worthy of note that few Apples will realise a better price in the market than a good sample of Blenheim Orange. To those unacquainted with certain characteristics of this variety I ought to say that as an orchard tree it is a long time coming into bearing after

red on the sunny side, shading to creamy gold on the opposite side, and in shape it is not unlike the old Hawthornden. The texture of its flesh is fairly soft, brisk, and juicy, and the flavour excellent. It is in season from February to May. The tree is a compact grower and an abundant bearer.

Lord Burghley.—This is distinctly a valuable late Apple, more especially for very late use, say through April and May. In appearance it is handsome, of medium size; in this respect, and also in colour, it is almost a replica of Worcester Pearmain. The flesh is of a yellowish colour, very juicy, and most sweet. The variety succeeds well as a standard in the orchard, and as a late dessert Apple of good quality, appearance, and flavour this is certainly one of the best.

King of the Pippins.—Indispensable in the smallest collection, one of the most handsome

Let it not be forgotten that late varieties of Apples *must* be allowed to hang on the trees as late in the autumn as possible.

Windsor.

OWEN THOMAS.

THE ROSE GARDEN

ROSA POLYANTHA.

FOR certain purposes this is one of the most useful of the wild Roses. It is a wide-spreading bush of very graceful and luxuriant growth, its stems arching out in every direction from the centre, and the whole ultimately forming a great mass 8 feet or so high and much more through. The flowers are amongst the smallest of all Roses, but are produced very numerous in abundant clusters.

When well in flower a plant becomes simply a fountain of white blossom. It is a quick and luxuriant grower and is admirable for clothing steep banks. If these are not very high the plants may be placed at the top, whence the shoots will hang down and soon hide the bank with a charming curtain, which is especially beautiful in June when this Rose is white with flower. There are numerous varieties and hybrids that belong to the multiflora group. They show their relationship to the type in the dense clusters of small flowers, but more particularly in the more or less fringed stipules. One of the most noteworthy of these varieties or hybrids is Crimson Rambler. Everyone, I suppose, knows this Rose now, no plant of recent introduction having more quickly reached so prominent a place. It was introduced from Japan (of which country, as well as China, the type also is a native) and was at first known as "Engineer Rose," but it was not until it came into the hands of Mr. Turner, of Slough, and was given the pleasanter name it now bears that it obtained more than very local notice. The Dawson Rose is a beautiful cross between R. multiflora and the

H.P. General Jacqueminot. Its flowers are a soft rose colour and semi-double, so much like those of Crimson Rambler in size and form as to suggest that the latter may be a cross between R. multiflora and some fine deep crimson H.P. B.

IRIS HELDREICHI.

THIS remarkably beautiful Iris has been much in evidence this year, and we cannot see too much of a flower so charming in colour and so distinct in all ways. The accompanying drawing was made from flowers in Messrs. Barr and Son's nursery at Long Ditton, but it was first exhibited by Messrs. Wallace and Co., of Colchester, at the last February meeting of the Royal Horticultural Society in 1900, when it received a first-class certificate. Then it was named I. stenophylla. It is regarded as very closely allied to I. persica. We



A POLYANTHA ROSE WITH OTHER CLIMBERS OVER A GARDEN ARCH.

planting—often six or seven years—but this time may be considerably hastened by judicious root and branch pruning. The tree is a strong grower, and for the first ten years root pruning should be resorted to every three years. The branches it makes are long and spreading, these must not be shortened, but allowed full scope for development, pruning only the lateral growths of these branches, thereby inducing them to make abundance of fruiting buds all up the latter. When grown on the dwarfing or Paradise stock as a bush or pyramid it fruits in a much shorter time, and for the ordinary garden this, no doubt, is the best way of growing this very fine Apple. I have specimens of many excellent varieties of late Apples now before me—all in good condition for dessert—and it is difficult to make a selection from them. I will mention a few, and will give the first position to

Fearn's Pippin, which is of medium size, dark

of Apples, an abundant bearer, of good quality, pleasant flavour, and with careful harvesting can be had in good condition for dessert from December to May or even longer.

Lemon Pippin.—So named because of its resemblance in size and colour to the Lemon, is very hardy, a moderate grower, and a good cropper. The flesh is greenish white in colour, rather soft in texture, and of a pleasant aromatic flavour; it will keep well until June.

Rosemary Russet.—This variety is difficult to surpass for late dessert purposes. The tree is hardy, an abundant and sure bearer, the fruit of good flavour, and keeps well until the middle of April.

Duke of Devonshire.—One of the latest, best cropping, hardiest sorts we have, not so handsome in appearance as some, but withal a desirable variety to grow.

King of Tomkins County.—One of the latest dessert varieties, excellent in every way.

mentioned in our account of it last year (page 202) that "no species can be compared with it except in size, and this is *I. alata*, but it is even more refined. The new-comer is without the rough outline of *I. alata*, nor does it possess the very broad blade to the fall of the latter. But in one feature it does suggest *I. alata*, and this is the way in which the claw from the lower side embraces the style, only that in the new-comer it is more uniform and definite, quite overlapping the entire upper surface of the style by the extended wings that meet on the central surface. The azure-blue, purple-shaded colours are very pleasing. This Iris will become one of the most notable of the early bulbous group." This species is a native of Asia Minor, and is as pretty as *I. persica*.

THE FRUIT GARDEN.

THE BLACKBERRY AS A MARKET FRUIT.

DURING the past few years the delicious fruits of the Blackberry have undoubtedly gained in popular esteem, as the numbers that have been seen in the markets of the metropolis and large provincial towns, especially during last autumn, amply testify. The supply, which apparently was fairly good, especially that of last year, when the berries were generally so plentiful in a wild state, did not seem in any way to exceed the demand, which is no doubt steadily on the increase. If this supply is to remain generally dependent only on those fruits supplied by Nature without cultivation, there is the possibility that the requirements may exceed the supply.

Another consideration is, that cultivation produces a larger and more luscious berry, for which a higher price is obtained, if the one case I am able to quote may be taken as a representative example. Under these circumstances, it seems there may be an opening in this direction for their profitable cultivation, especially where land is obtainable at cheap rates, or such as is otherwise almost worthless for either garden or farm crops, but would answer well for this purpose. As there must be much of this class about the country within easy reach of good markets, it might prove a profitable investment if owners started in a small way, experimentally, with a view to testing the possibility of further extending their cultivation if proved to be a profitable venture. Seeing the prolific crop of berries produced in a wild state, even where the land is decidedly poor and comparatively worthless for other subjects, it is only reasonable to expect that with a little cultural attention a largely increased crop may result. The American varieties, of which the berries are very fine, do not seem to adapt themselves kindly to the climatic conditions of this country, and can be depended upon only when the summers are, for England, of the hottest character. Therefore it is doubtful if much assistance is to be derived from intercrossing these with our native species. Among our wild plants there is a considerable diversity both in the character of the growth and the size of the fruits.

A selection made of the most promising when in fruit should be marked for removal at the proper time, securing sufficient to form a fair experimental test. A short time since a small market grower in

this county (Bucks) assured me he could readily obtain 6d. per pound for these fruits (retail) when put up in one pound punnets, and the demand exceeded the supply. This grower had utilised a piece of rough, stony ground, but naturally rather moist, adjoining his market garden, the variety he was growing being a good form of the common

Blackberry, which he had selected from seedlings and increased by layering, simply pegging the points of the long canes into the soil.

When these had become well rooted, they were taken off and planted elsewhere. The cultural details are simple, and consist merely of cutting away the old fruiting canes, giving the new ones the support of a stout 6-feet stake, to which three or four are loosely tied once, towards the top, and the points allowed to bend over naturally to the ground. The canes made in this way attain a length of 12 feet to 15 feet or more, and the points are pegged to the ground. In winter the surface of the ground may be slightly stirred and a surface dressing of rotten manure be applied. The fruits may be used in many ways, and make a delicious jam or jelly, which by some is preferred to that made from choicer fruits.

C. HERRIN.

PEACHES AND NECTARINES OUTDOORS.

SPRING TREATMENT.

MUCH of the success or failure with these fruits, as with many others, depends upon the vigilance and care bestowed upon them in April and May. The purpose of this article is to point out some of their needs, and also some of the dangers to which they are subject.

The first thing to be thought of is protection from frost. It is rather unsatisfactory work, and sometimes in a long cold spring becomes very irksome; but there are very few seasons in which it is not necessary to some extent, unless the trees are in a very warm position and dry neighbourhood. When the trees are in bloom liquid manuring is beneficial and assists the setting of the fruit. Many people seem to think the trees need no help in this way until the fruit gets a fair size, but a beginning cannot be made too early if the trees give promise of a heavy crop. The leaves of Peaches and Nectarines begin to come out while the bloom is still on, and then one of their greatest enemies has to be looked out for, viz., the aphid, the species in this case being, not a green fly, but a brown one, its full title being *Aphis pruni*. The eggs of this aphid often hatch during a few warm days in April, and the flies or insects do great mischief, as they are able to spoil the young and tender shoots which are breaking out often just where you want bare spaces on the wall filled up or worn-out wood replaced. Sometimes Bean sticks are kept in front of the trees all April, so that the presence of the aphid is not noticed until the damage is done, when numbers of little yellow leaves are seen lying on the ground below. Where the trees have not been kept clean the previous autumn they are specially liable to this early visitation. There should be no delay in giving them a syringing with soft soap and quassia chips or paraffin naphthalin emulsion, which should be repeated after a week or a fortnight, as during that time another lot of eggs may have hatched.

If the fruit sets very thickly it should have its first thinning by the middle of May, or even before, so as to let the trees waste as little of their energies as possible on useless fruits. All badly placed fruits, such as those between the branches and the wall, or in the clefts, should be taken off at this first thinning, and all bunches of twos and threes reduced to single fruits. The fruits should be taken off with a slight twist, so as to avoid the risk of pulling pieces of bark off with them. By the latter part of May, in an early season, or the beginning of June in a late one, the final thinning of the fruit may be undertaken, the largest fruits, of course, being left for ripening. On all shoots of average size, if quality is preferred to quantity, not more than one fruit should be left, only the strongest shoots being allowed to bear two. On very strong growing trees a few extra ones may be left, especially if the trees are going to be well fed during the summer.

Some growers prefer leaving the final thinning of the fruit until the critical time of stoning is



IRIS HELDREICHI.

(From a drawing made by Miss Alice West in Messrs. Barr's nursery at Long Ditton.—Flowers slightly reduced.)

passed, so that then it may be seen what fruits will remain on the tree till maturity. This makes a severe tax on the tree, which is unnecessary, for, if the tree is properly nourished, very few fruits indeed fall off during the stoning period. An operation which should be begun as soon as it can be determined which of the shoots will lengthen out and which will only form short fruiting spurs, is that known as disbudding; this consists in rubbing off with the thumb and finger all the shoots which will not be wanted, and it is usual in the case of Peaches and Nectarines to rub off all on the previous season's shoots except two—the one at the base of the shoot and the one at the extremity—to draw up the sap for the fruit.

In the autumn the branch may be cut back to the basal shoot or not, according to the space at disposal. This disbudding should not be done all at one time, as such a large number of wounds may cause an evaporation of sap, which will give a check to the tree and weaken its growth, producing unhealthiness and the evils which follow in its train. The extent to which disbudding is done must depend upon the amount of wall it is desired to cover, and great care and foresight must be exercised, so that in the autumn there may be shoots ready to fill in blank spaces and take the place of worn-out wood. In addition to disbudding, any shoots which seem likely to grow rank should be pinched back, as they are a drain upon the trees and seldom produce fruit.

To sum up, it may be said that proper thinning and disbudding, combined with cleanliness and proper feeding, constitute the whole art of growing these luscious fruits. They are not fruits which can be well left to themselves, but they repay the care bestowed upon them, as one or the other is held by most people to be the king of fruits, and there are none which are more appreciated by one's friends.

ALGER PETTS.

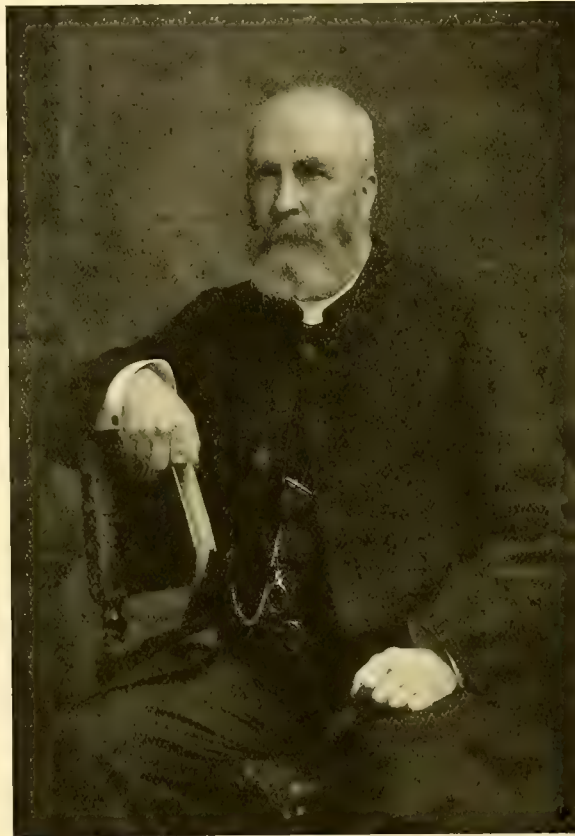
WORKERS AMONGST THE FLOWERS.

PROFESSOR G. HENSLOW,
M.A., F.L.S.

THE REV. PROFESSOR GEORGE HENSLOW, M.A., F.L.S., F.G.S., F.R.H.S., V.M.H., &c., is the younger son of the late Rev. J. S. Henslow, M.A., F.L.S., Professor of Botany in the University of Cambridge, and brother-in-law to Sir J. D. Hooker, late Director of the Royal Gardens, Kew. He was born at Cambridge in 1835, and was educated first under the Rev. E. Daniel, of Sawston, Cambs., then, from 1847 to 1854, at King Edward VI.'s Grammar School, Bury St. Edmunds, under the Rev. J. W. Donaldson, D.D., of great reputation as a Greek scholar. On leaving school in 1854 he entered Christ's College, Cambridge, of which he was a scholar and medallist, and in 1858-59 he took honours in three triposes—mathematics, divinity, and natural sciences—being recorded as "distinguished in botany, geology, and mineralogy." He graduated as B.A. in 1859, and subsequently as M.A. Whilst a resident B.A. at Christ's College Mr. Henslow gave his first course of lectures on botany.

In 1855 he spent several weeks in Jersey and studied the flora, contributing his first botanical paper to the *Phytologist* on the characteristic plants of the Channel Islands. In the following year he went for a botanical tour under the auspices of Dr. (now Sir) J. D. Hooker through Switzerland, during which he collected a large series of plants. In 1861 he was elected head

master of the Endowed Grammar School of Hampton Lucy, Warwickshire, founded in the reign of Charles II., where botany was made a regular subject in the school. Removing to London in 1865, Mr. Henslow took an old-established grammar school. He was also elected lecturer on botany to St. Bartholomew's Medical School, a post he held till 1890. Another appointment which he held was that of afternoon lecturer at the Royal Institution. For several years during his residence in London he was a popular lecturer on botany at the Birkbeck School of Science and Art, giving also many courses of lectures on botany, geology, physiography, and elementary astronomy in schools and colleges in and around London, including the late Mr. Walter Wren's establishment for the Indian Civil Service. Mr. Henslow now holds the professorship of botany to the



THE REV. PROFESSOR G. HENSLOW, M.A.

Royal Horticultural Society. His experience as a lecturer at the provincial philosophical and scientific institutions is very large, and few men have been more widely esteemed.

He was president of the West London Scientific Association, and has been that of the Ealing Natural Science and Microscopical Society since 1882.

He has been secretary to the scientific committee of the Royal Horticultural Society since 1879, as well as for several years demonstrator on botany at the fortnightly meetings.

Besides his extensive labours in the field of education, the contributions which Mr. Henslow has made to botanical literature are of the highest importance. The *Transactions* and *Journal* of the Linnæan Society bears witness to his assiduity in many original investigations, among which may be specially mentioned his papers on "Phyllotaxis," and his experimental

researches on the transpiration and assimilation of plants, as well as those on their power of absorption. For these researches he received a grant of £100 from the Royal Society.

As a writer on educational subjects to the leading magazines of the day, and by his numerous published works and articles on botany, Professor Henslow has made his name widely known. The titles of his published writings would alone fill a large list. Space will only allow us to mention some of the principal works and manuals of which Professor Henslow is the author. He wrote the volume on "The Origin of Floral Structures through Insects and Other Agencies," and "The Origin of Plant Structures," two of the International Scientific Series, and is also the author of the following works, published by E. Stanford, viz.:—"Botany for Beginners," and "Floral Dissections," also "How to Study Wild Flowers (R. T. S.)." These form introductions to the study of botany which have rarely been equalled in excellence of design and treatment. Twenty-five of the principal articles on botany in the "Encyclopædia Britannica" are from his prolific pen. He was also the Actorian prize essayist in 1872, the subject being "The Theory of Evolution of Living Things," published as "Evolution and Religion."

His latest work is "Medical Works of the Fourteenth Century," transcribed from MSS., with an introduction and notes by Professor W. W. Skeat. He is also the author of several theological works.

SHORT STUDIES ON PLANT LIFE.—VII.

PLUMS AND THEIR KINDS.

THE genus *Prunus* includes all kinds of "stone-fruits," popularly so called; for not only is the Blackthorn or Sloe, Plums and Damsons, but the Almond, Apricot, Cherries, and the Common and Portugal Laurels are members. It is a genus of the northern hemisphere, and is represented by species pretty well all round the world, and even in tropical regions of Asia and America. Various species have long been cultivated. Pliny, writing in the first century, says twelve kinds were grown in his day, as well as the Almond, Peach, and perhaps the Nectarine. The præcocia or early Plum was perhaps the Apricot, originally called "Apricock," the Damascene Plum introduced into Italy before the first century from Syria. His wild Plum appears to have been *P. insinitia*, our Bullace, found by Sir J. D. Hooker in the Kashmir Mountains from 5,000 feet to 7,000 feet.

Every country where species of *Prunus* grow wild appears to have supplied some for cultivation. Our Sloe (*P. communis*) has given rise to *P. domestica*, the wild Plum, *P. Cerasus* is the wild or Dwarf Cherry and origin of the Morello, Duke and Kentish Cherries, according to Hooker, while *P. Avium* has given us Geans, Hearts and Bigarons. Similarly, in America, though European kinds were first grown; from 1840 to 1850, races were established from native wild species, but since that date some thirty hybrids have been obtained by crossing American forms with the Japanese Plum.

The Almond, Apricot, and Blackthorn are the earliest of flowering trees, and when we study the physiology we find that the stamens

and pistil either mature together, as is the case with *P. domestica*, *Avium*, and *Cerasus*, or the pistil is in advance of the stamens, as in the *Sloe* and *P. Padus*, the *Bird Cherry*. This appears to be a consequence of the lower temperature of the early flowering season; since it is a rule with conspicuous blossoms of summer flowering plants that the stamens mature their pollen before the stigmas are ready to receive it.

Like all the members of the *Rose* family, the flower stalk plays an important part in the structure of the flower. The termination called the floral receptacle ceases to grow below the solitary carpel, but continues to do so in the circumference, so that it first appears as a ring. This gradually rises into a cup-shaped structure, and carries the sepals, petals, and stamens on the rim. The carpel then remains at the bottom like an egg in an egg cup. As the fruit swells it gradually fills the cup, and tears it away from the base, so that the latter finally falls off, leaving the fruit free.

The purpose of this "receptacular tube," as this cup-like structure is called, is for secreting honey. In the *Raspberry* it forms a little trough around the base of the pistil. In the *Rose* it makes the "hip," but it has lost its honey-secreting property.

Besides various varieties the *Almond* is remarkable for sporting, for it gives rise to the *Peach*, and then the *Peach* sported into a *Nectarine*. Both kinds of fruit are sometimes borne on the same tree, or a single fruit may be in part a *Peach* with a rough skin, the other part having the smooth skin of a *Nectarine*. The stones and kernels of either may give rise to either a *Peach* or a *Nectarine*.

GEORGE HENSLOW.

AN ARTIST'S NOTE-BOOK.

HAKEA LAURINA.

WHERE the conditions favour this plant it is a gorgeous shrub when in flower. In some of the gardens of the *Riviera*—Mr. Hanbury's at Mentone, for instance—it grows sturdily and flowers freely. I saw it there in all its glory in October, 1889, a shrub 10 feet high, covered with balls of flowers

$2\frac{1}{2}$ inches in diameter, their colour brilliant scarlet bristling with long golden styles. It was pointed out as the *Sea Urehin* plant. Like most of the Australian *Proteads* to which this plant belongs, and which hail from the sunny, sandy regions of the west side of that continent, it is difficult to flower in this country, although easy enough to grow in a greenhouse. I have seen it healthy and happy as a shrub in the open air in South Cornwall, but it does not flower there. Another name for it is *H. eucalyptoides*. There are about a hundred species of *Hakea* scattered over Australia, but so far as I know this is by far the most showy of them. The genus is closely related to *Grevillea*.

W. W.

AMATEURS' PERPLEXITIES.

CAMELLIAS FOR OUTDOOR PLANTING.

"R. M."—The best *Camellias* for planting out of doors in the open air are those which bloom late

which they are starting. Unlike many other shrubs, they seem to have the advantage of being exempt from the destructive attention of rabbits; perhaps when snow is on the ground they might be barked, but I do not remember to have noticed it. Apart from the question of varieties it may be well to draw attention to the fact that only strong healthy plants should be turned out, for sickly specimens from a conservatory or greenhouse are very slow indeed to make a start, and will remain sometimes for an astonishing number of years in almost the same pitiable state. Grafted plants



SHOOT OF *HAKEA LAURINA*.

(From a drawing by H. G. Moon.)

and start late into growth, such, for instance, as *Chandleri elegans* or *Anemonæflora*; the varieties with broad roundish leaves appear to grow in more robust fashion than those having narrow pointed ones with a serrated edge, though the latter will make sometimes very compact bushes. It is possible that the sorts with dark red flowers are harder than those with pink. The old double white seems to stand the cold well enough, but it hides its flowers rather too much among the foliage to make any effective display of them, though in this way they are often secured from frost or bad weather and made serviceable for cutting. To train against a trellis or wall *Doncklaarii* is very good, and next to *reticulata* one of the most beautiful when well grown, blooming so freely.

Camellias appear to grow in almost any aspect, but are naturally sun lovers, and though preferring peat they will do in most other soils, provided that there is no lime present. The points of the young roots are very sensitive to drought, so should be protected until well established, by light mulching or a surrounding growth, from the risk of being withered up by a fierce sun striking the ground in

should be avoided; if seedlings are not obtainable cuttings generally can be struck without much difficulty.—C. S. D., *West Sussex*.

HARDY SUMMER AND AUTUMN FLOWERS FOR TABLE DECORATION.

"H. H."—It is not clear whether the enquirer means dinner-table decoration only or any table where flowers are stood; but as the more comprehensive answer will be useful to the larger number of readers we give it to include large ornamental flowers for cutting, as well as the smaller, that may better suit dinner-tables of moderate size. After *Daffodils* and *Tulips*, which can scarcely be called summer flowers, come *Oriental Poppies*. Many people think that these splendid flowers will not live in water, but it is only because they do not know how to treat them. They have a milky juice that soon hardens over the cut and prevents them from drawing up the water, so the moment before putting them in water they should be fresh cut and the stalks a little slit up, then if they are put at once into water they last as well as anything. The

great blooms of tree Pæonies are generally too precious to cut, but the old English garden Pæony, the double form of *P. officinalis*, is a grand flower for room ornament. Following these will be the many beautiful varieties of *Pæonia albiflora* or Chinese Pæonies and autumn-sown Sweet Peas. *Alströmérias* are some of the most durable of summer flowers. Others of the most useful are *Coreopsis lanceolata*, *Spiræa venusta*, many beautiful Flag Irises, the fine white Daisy Chrysanthemum maximum, *Delphiniums*, *Gladiolus Colvillei* the Bride, *Gladiolus gandavensis* hybrids, and *G. brechleyensis* will soon follow. Some of the best of the larger plants for cutting are the *Eryngiums*, *E. oliverianum*, the tall blue Sea Holly, and *E. giganteum* the Silver Thistle, also *Echinops* the Globe Thistle; *Achillea* The Pearl can also be cut long, and the white Galega. In middle and late summer there are Lilies, the best for cutting being the white Lily (*L. candidum*), Tiger Lily, Orange Lily, *L. speciosum*, and *L. longiflorum*. Towards autumn come the perennial Sunflowers, beginning with *Helianthus rigidus*, a succession of good cutting flowers being kept up by *H. decapetalus*, the tall Miss Mellish, and *H. lætiflorus*. By this time (August and September) there will be Dahlias in quantity, and then Michaelmas Daisies. These are the best things for tall decorations. For smaller there are Lily of the Valley, Roses of every kind, Mignonette, Sweet Sultan, bunched-flowered Polyanthus Primroses, late Dutch Honeysuckle, Lilacs, Cornflowers, Fancies, Pinks, and Carnations.

GARDEN DESTROYERS. INSECT PESTS.

IT is impossible to give directions for destroying all the various kinds of injurious insects in even two articles, but the information given will enable anyone to deal with the pests most frequently met with; in order to do this, and to prevent repetition, certain insects are grouped together.

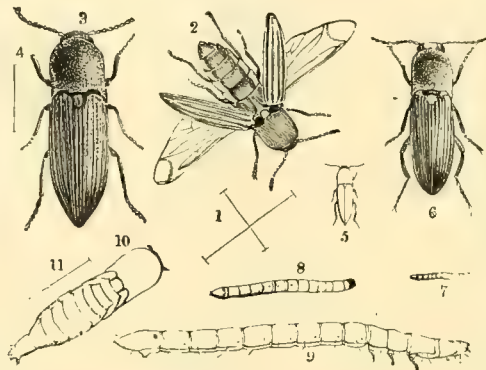
Perhaps the group that should be considered first is that of the

BUTTERFLIES AND MOTHS.

In themselves they are perfectly harmless, but their caterpillars are all more or less destructive to vegetation. They usually feed on the leaves, but some feed on the roots, others in the stems, in flower buds, and in fruit, though several kinds feed on the foliage of plants; still, comparatively few appear in sufficient numbers as to be really injurious in gardens. Certain kinds spin a number of the leaves together on which they feed. When any of these nests are found the best way is to cut them out, holding a basket or box under the nest, as many of the inmates will drop out when disturbed and will otherwise escape. If they are on trees that are not bearing fruit, they should be syringed with a solution of paraffin emulsion or the now popular Paris green. These solutions must be applied with some force, so as to break the webs, which are generally of strong silk. Caterpillars that feed openly on the leaves, supposing always that there are no fruit or leaves to be thought of as food, may be killed by spraying the plants with one of the above-mentioned materials. Caterpillars that twist up leaves, or only join one or two together, like those that so often attack Roses, may be killed by pinching them between the finger and thumb, taking care that they do not drop out before the pressure is applied. It is perhaps safer to cut the leaves off into a basket held underneath them. Some caterpillars bore into the stems and branches of fruit trees. A very common one, that of the Wood Leopard Moth, is about 1½ inches in length when full grown, which is not until three years have elapsed from hatching; it is of a buff colour, the head and the first joint of the body are nearly black, and there are several black dots, each bearing a hair on each joint of the body. These caterpillars live entirely in the stems or branches of fruit trees; their presence may generally be detected by finding a small mass of particles of wood like sawdust on the tree, and a certain amount of sap oozing

from it. On looking a little closer a hole will be found, which is the entrance to the burrow; by passing a sharp wire up the hole it may be possible to stab the caterpillar. If this cannot be done, the insect may be stifled by stuffing the hole full of tow steeped in tar or paraffin oil, or it may be filled with tobacco water or paraffin oil by means of a small syringe with a fine nozzle, which may be obtained of any chemist. As soon as the syringe is withdrawn the mouth of the burrow must be closed with a plug of clay, or the branch may be cut off some 2 inches or 3 inches below the hole; it should then be split open and the caterpillar killed.

The branches of Currant bushes are sometimes infested in much the same way by the caterpillars of one of the clear-winged moths. If a branch suddenly withers it should be examined, and cut off below where there is any sign of withering. Certain caterpillars that attack fruit are difficult to deal with. The fruit that is attacked should be gathered if possible as soon as the attack is noticed, or if it falls it should be picked up at once, the object being to kill the insect before it has had time to leave the fruit. It is useless to try and save the latter, and it is well to dig the ground under such trees in the winter, turning the surface soil well underneath, so as to bury deeply any chrysalides that may have been formed near the surface. The grubs of certain sawflies greatly resemble caterpillars, for instance, those that attack Gooseberry bushes; others, the Pear slug worm, as an example, more resemble a slug than anything else. One or more species feed on the leaves of



WIREWORMS.

1 and 2. *Agriotes lineatus*. 3 and 4. *Ag. obscurus*.
5 and 6. *Agriotes sputator*. 7 and 8. Wireworms, nat. size.
9. Wireworm, magnified. 10 and 11. *Chrysalis*.

Roses, and nearly all make their chrysalides in the ground under the plants on which they have fed. The most certain way to prevent a recurrence of the attack is to remove the soil which contains them to the depth of 3 inches, and burn or bury it deeply, and replace with fresh soil that is uncontaminated. The grubs may be killed by spraying the plants with paraffin emulsion or Paris green, but these remedies cannot be used if there be a crop of fruit on the bushes and trees. Dusting the leaves with powdered lime, soot, or even fine road dust is very useful.

PESTS AT THE ROOTS OF PLANTS.

The roots of plants often suffer greatly from the attacks of various caterpillars and grubs. The pests are very difficult to destroy, as insecticides become much weakened in passing through the soil—which acts as a kind of filter—as to have little effect upon the things they are intended to destroy. Among the commonest of these are the wireworms, smooth round grubs, from ½ inch to 1 inch in length, of yellowish colour, and not unlike a short piece of copper wire. They are hatched from the eggs laid by the common skipjack, or click beetles, long, narrow beetles of a dusky brown or grey colour, which may often be seen on the flowers of weeds, particularly Cow Parsley. In gardens wireworms are especially destructive to Carnations and Pinks.

The grubs of the daddy-longlegs, or crane fly, are also very common and very destructive. When full grown they are rather more than 1 inch in

length, and almost as thick as a quill pen; they have no legs, and are of a brownish grey colour. Then there are certain creatures called millipedes, or thousand legs, which are not insects, but they are very injurious to the roots of plants, and also to ripe Strawberries. Some of these millipedes are about an inch in length and about one-tenth of an inch in width; they are of a dark brown colour and very horny; when touched they will often curl themselves into a ring. A smaller kind is whitish, with a row of bright red spots down each side. The best way of dealing with these root-feeding pests is, if a plant seems to flag without any visible reason, to turn up the ground near the roots and try and find the pests, or they may be trapped by burying slices of Mangolds, Turnips, Carrots, or Potatoes about an inch below the surface near the plants; a small wooden skewer should be stuck into each so as to show where it is buried, or tiles, slates, bricks, pieces of board or turf should be laid about for the insects to hide under, which they will often do. Both kinds of traps should be examined every morning.

Some grubs cannot, however, be caught in these traps, for instance, those of the cockchafer, which are large, white, fleshy grubs, nearly 2 inches in length when full grown; they lie usually in a somewhat curled position, the tail, which is the thickest part of the body, is usually of a dull bluish colour, and is turned under the body, which is much wrinkled. The grub has three pairs of longish thin legs near the head. The only practical way of destroying these insects is by turning them up out of the ground with a spud or some similar tool.

G. S. SAUNDERS.

(To be continued.)

COSMOS BIPINNATUS.

THIS autumn-flowering half-hardy annual has quickly gained favour since it has rather lately been brought forward. Its weakest point for English gardens is that its natural season of flowering (October) is too late, and it is only in a year like the last, when the late autumn is unusually mild, that it has a chance of blooming before being destroyed by frost. But a correspondent, writing during the past summer, advised sowing in February in slight heat, transplanting to a cold frame when 2 inches high, and planting in April in a sunny place, when it could be had in bloom by August.

The white kind is the best, and though the plant grows tall—7 feet to 8 feet—the finely divided foliage, of a wholesome, full green colour, is graceful and pleasant to the eye. The flowers are valuable for cutting, lasting well in water and making good and refined-looking room decorations.

In a note on hardy and half-hardy annuals that appeared a short while back this handsome subject was alluded to. Its delicate, Nigella-like foliage, and its large and shapely single flowers, the most beautiful form of which is the pure white, render it deservedly a favourite. Care should, however, be taken that it is not afforded too deep and rich a root-run, or it will far exceed the height of 3 feet given in the article, and will be proportionately later in coming into bloom. Where seed has been sown in the open in rich deep soil I have known the plants exceed the height of 6 feet and fail to expand their first blooms before November. Treated in this manner the Cosmos is, naturally, valueless for garden decoration, since gales and frost generally supervene before that date; where, on the other hand, good-sized seedlings are planted out at the end of May, as recommended in the note in question, in soil that does not encourage growth at the expense of floriferousness, the plants complete their flowering before the atmospheric conditions interfere with their display.

S. W. FITZHERBERT.

GARDENING OF THE WEEK.

FRUIT GARDEN.

HARDY FRUITS.

FIGS are not safe in many parts of the country without protection, and various modes are adopted to preserve the new wood, as on this is borne the crop. At this date it will be well, weather permitting, to uncover partially if a heavy covering was given in the autumn, as the increased warmth from the sun will cause the sap to rise, and later on the trees may be fully exposed. With trees stopped during growth very little pruning will now be required; at the same time, I have often observed very old trees are much too thick, finer fruits would be secured by thinning out old and training in young wood: Sucker growths should not be allowed unless a few of the best are needed to replace old branches. Hardy Vines on walls should now receive attention; the best results are obtained when new shoots are trained in occasionally. Of course, with very old Vines on buildings, where the well-known spur system of culture has been followed for many years, my remarks are not applicable; but even here the plant is greatly benefited if new wood can be obtained, and often an old shoot may be cut out, tacking in a young growth in its place. Very often, too, many spurs are left; these, when thickly placed, produce a thicket of weak wood and small bunches. Now is a good time to reduce old spur growths that are weak or far from the wall, and cut back to a young growth or even within an inch of the base; the cut back part will next season produce a new bud, and later on fruit. The present time is also good in which to top-dress the trees, using a rich fertiliser, such as bone-meal or other quick acting agent. Young Vines should now be planted, and if in pots the roots should be carefully disentangled and spread out and some fine compost used at the planting for the small fibrous roots.

Strawberries planted last autumn in prepared land will not require food, but the surface soil may be lightly hoed over (not dug), and previous to the hoeing, if the soil is at all light, it is a good plan to trench round each plant, thoroughly firming the same, as there is a tendency with newly-planted

Strawberries to leave the soil. Older quarters are cleansed by what is termed skinning—that is, the soil is lightly turned over, and if given manure this is turned in—the quarters made clean for the annual cropping. This time of year is favourable for planting in heavy cold soils if layers were secured last season and wintered close together in readiness for spring planting. We are at the present date planting new quarters of the St. Josephs; this is one of the best of the newer perpetual types, and is very useful for autumn supplies. Those who grow the Alpines should have sown seed ere this, but it is not too late if sown at once under glass; the last year's fruiting plants will also give good planting material if the runner growths are detached and planted straightway in good land well enriched with manure.

Syon House Gardens, Brentford.

G. WYTHES.

INDOOR GARDEN

FUCHSIAS.

SUCH protection as these have been given during winter will have made its influence felt, and growth will be on the move, and this is the best time to deal with the root mass. If plants are intended to be grown into larger sizes then a partial disturbance must only be made, the removal of some of the outer soil in the ball being all that is necessary; but if it is intended to simply reinstate the plants then the ball must be considerably reduced to permit of their going into the same sized pots and to allow for the addition of fresh soil. The seasonable pruning should also be done now that the plant is in the workman's hands in the potting quarters, unless for some particular purpose, such as for exhibition, &c. I am not in favour of the stiffly trained plants we sometimes see, as it is simply robbing the subject of a grace which it naturally inherits, and the more we take this into account when dealing with this charming greenhouse plant the more effective will be the picture; a rich loamy soil with suitable drainage is recommended, and moderately firm potting must be practised.

IVY-LEAVED GERANIUMS.

The many uses to which these can be put render them most desirable plants in the flower garden as well as in the greenhouse; unlike the zonals, to get the very best results, they should not be too frequently potted, nor given a rich compost when

this has to be done. I have found that once in every two years is quite often enough to repot; but of course liberal stimulants are plentifully given the second year. Clay's Fertilizer I have found an excellent tonic, and when applied as a surface dressing well mixed with fine soil the effect was marvellous. There are now many fine varieties in the market, but in my opinion none of them is finer or more free-flowering than Souvenir de Charles Turner; this is possessed of a charmingly bright colour, and when seen on a suitable surface, such as the trellis work in the corridor, the sight is one to commend this variety to any one.

STAGE PELARGONIUMS.

The necessary pinching having been attended to up till now, the growths may, if the plants are not to be kept back for a certain purpose, be allowed to grow on for flower. The pots being now well charged with roots a little feeding should be given; here again I recommend Clay's Fertilizer and farm-yard manure alternately; the latter, if given too frequently, is apt to cause a too soft growth and a consequent lack of flower. A sharp look-out must always be kept for green fly, and to those who may have missed seeing my advice in a previous calendar, fumigating once fortnightly must be done, as this is the only way to ensure thorough cleanliness. As many hard-wooded greenhouse plants are now approaching their flowering season, a little feeding will be of considerable advantage, not only in assisting the plant through the flowering season, when a great strain is put upon its energies, but will also assist in developing fresh growth, and thus prepare them for their annual replotting.

J. F. McLEOD.

Dover House Gardens, Rochampton.

THE FLOWER GARDEN.

ROSES.

THE more tender Roses may now be pruned, leaving the true Teas until the last. No set rule need be followed in pruning these, the best guide being the condition in which the winter has left the wood made last year. With some of the most tender varieties the wood gets frost-bitten, and though such wood may not be entirely killed it is always best to cut below it, for strong growths and good flowers will be produced from the basal buds. Where quantity of flowers is the main object rather than quality, as will be the case with most garden Roses, and the wood shows no sign of injury, it is best to cut back only to the uppermost dormant bud in order to get as many breaks as possible. Climbing Hybrid Teas and Noisettes should only have the weak wood cut out, laying in all strong growths to as great a length as possible, as it is from these growths that the best flowers will come. When pruning is finished the beds should be well mulched with short manure.

LAWNS.

The time for the mowing machine is fast approaching, but before it has been brought into use the lawns and verges should be well brushed over, removing worm-casts and any stones which have found their way on to the grass as they do in snowy weather, after which a good rolling should be given and all coarse patches of grass gone over with a good scythe, for they prevent the machine from doing good work. Continue weeding operations on all possible occasions. If the lawn mowers have not yet been overhauled and put into good order, this should be done at once, for a breakdown in the spring or summer is quite a calamity. Where one or other of the poisonous weed killers are in use, a favourable time should be taken for application. If possible this should be done in weather that promises to be fine, but while the



WHITE COSMOS BIPINNATUS.

gravel is still moist from previous rains. All gravel should soon be laid so that it may bind well before the dry season begins.

ANNUALS.

Tender annuals that were sown early should be pricked off in good soil under cover of a frame or turf pit, so that they may be lifted with plenty of soil when they are planted out. Pricking off in fresh soil is a good antidote to the "damping off" which is so prevalent with some things while they are in the seed pans or boxes. Those annuals for which I recommended delay in sowing some weeks ago may now be sown. If intended to be planted out direct from the seed bed they should be sown thinly, but it always pays to prick off all these things under cover at least once.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

CHRYSANTHEMUMS.

EARLY FLOWERING VARIETIES.

THESE are quickly becoming popular, and this is not to be wondered at, as they are invaluable for supplying large quantities of cut flowers and for brightening up the beds and borders during late summer and early autumn, and few things give better returns for the small amount of labour expended on them. The old plants may now be divided, potted into small pots, and rooted in cold frames. If kept close for a few days little difficulty will be found in starting them into growth. Use a light sandy compost, and pot firmly. As soon as they are well rooted, remove them to a sheltered position where some slight protection can be afforded if necessary, but these are hardier when treated in this way than the varieties grown for pot culture. The plants should be ready for planting out early in May. The beds and borders in which they are to be planted should now be prepared, receiving a thorough dressing of farmyard manure, and the ground deeply dug, or, better still, trenched. A well-formed collection properly arranged on a sheltered border in three or more rows will make a most effective display, and when possible should be grown in this way, and for brightening up the shrubbery borders they are also most useful when grouped together in separate varieties—the larger the groups can be made the better will be the effect produced. On poor shallow soils the ground should be deeply broken up and enriched with good manure. Except keeping the plants well supplied with moisture at the roots in hot dry weather, and staking in due course, little other attention is required. Many of the small flowered kinds of good habit make splendid material for replenishing the flower beds towards autumn, when some of the earlier summer flowering plants are past their best, and at the same time make an agreeable change. Young plants should be planted out in May on a well-prepared piece of spare ground, either in the kitchen garden or any open out of the way place at a distance of 18 inches apart. The shoots should be stopped once to ensure good bushy growth, and when required they may be carefully lifted and replanted with good balls of earth. Give a thorough soaking and syringe overhead for a few days, and in very bright weather a slight shading of tiffany during the middle of the day for a week or so will be beneficial. In cold districts, in case of severe frosts, a slight covering should be arranged over them when in flower, the smallest protection generally sufficing to keep them safely.

SPECIMEN TRAINED PLANTS

ought now to be making headway and should be ready for potting on into 7-inch or 8-inch pots, using a richer compost for this move. The plants should be removed from any heated structure to the cold frames. Stop and train out the young shoots as required, and encourage in every possible way a fine sturdy growth, keeping in mind that the sooner the desired number of shoots is obtained the better will be the quality of the flowers. As I have before pointed out, good blooms and healthy foliage should be secured rather than large unsightly plants bearing enormous

quantities of miserable flowers, and late stopped plants will never produce these.

The main batch of plants cultivated for fine flowers that have been potted on into 5-inch or 6-inch pots will now require close attention daily. Too much air can hardly be given after they have got over the slight check from being repotted, except when cold easterly or north-easterly winds prevail, and then the lights should be tilted as much as possible the other way, but on warm balmy days remove the lights entirely, and leave off until last thing at night, and whenever safe to do so leave the lights blocked up all night.

Great care should be exercised in watering. Look over the collection twice daily and see that the plants do not become crowded together. Dust the points every ten days with tobacco powder in the evening and syringe off the following morning, and apply black sulphur immediately any sign of mildew makes its appearance. E. BECKETT.

Allenham House Gardens, Elstree, Herts.

KITCHEN GARDEN.

CARROTS.

THE main crop of these should be sown as early in April as the state of the ground will permit. The soil best suited for their successful cultivation is a deep sandy loam, rich enough to produce the crop without the addition of any manure, which, unless placed at the bottom of the trench, causes the roots to become forked, producing side shoots, and reducing the value of the crop. It is essential that the soil should be in such a state as to allow the roots to penetrate to their full length without interruption; if the soil is cold and heavy, sowing should be put off for a week longer. Carrots can hardly be covered too lightly, half an inch of fine soil is quite enough, and for ordinary use they may be sown in drills 1 foot apart, but if exhibition roots are desired, more room must be given between the rows, and as soon as the young plants are large enough to handle they may be thinned to 6 inches or 9 inches apart; frequent dustings of soot will improve the crop and help to ward off the attacks of wire worm. Light hoeing between the drills to keep the crop free from weeds will be all that is necessary for the remainder of the season. James' Intermediate, Veitch's Model, and Matchless are good varieties for this sowing, and monthly sowings of Sutton's Early Gem from now till July will produce a supply of young Carrots for bunching to the end of the season.

PEAS.

A good sowing should be made now to give supplies from the middle of June onward. Gradus, a splendid early Marrow variety, should under ordinary circumstances be ready to gather in ten weeks from the time of sowing, and may be closely followed by Sutton's Magnum Bonum and Peerless Marrowfat. Veitch's Main Crop, an excellent variety for succession, should be sown somewhat thinly, owing to its free branching habit; this, with others mentioned above, may be sown in rows 4 feet apart. Criterion, Duke of Albany, and Chelsonian, all of which are of exceptional merit, should be sown in rows 6 feet apart, or even more if convenient, for nothing is more detrimental to a crop of Peas than crowding them closely together. Stake Peas sown early in January, and protect from cold winds by placing Spruce or other evergreen branches along the rows. If sparrows are troublesome, white thread may be extended along the rows, and frequent light dustings with soot and lime given to make the foliage as unpalatable to them as possible.

POTATOES.

The planting of second Early and Main Crop varieties may be proceeded with whenever the weather and the state of the soil permit. If the ground is already dug and of a fairly open nature, sets may be inserted in holes made by a blunt pointed Potato dibber, care being taken that the holes are as near the same depth as possible, so that the crop may come up regularly; allow space enough between the rows for the full development of the foliage. Windsor Castle is one of the best varieties for planting at this season; Kerr's Cigarette is also a splendid sort, with erect medium

sized foliage. Snowdrop, White Beauty of Hebron, and Clarke's Main Crop are well worthy of a place in every garden, and should have a width of 30 inches between the rows. Lettuces sown in boxes early in the season will now be ready for pricking off under a south wall, where they should remain until ready for use; handle the plants carefully to avoid breaking their leaves, and do not expose the roots to cold drying winds. A sowing may now be made on a south border of Mammoth White Cos, Brown Cos, Early Paris Market (which comes to maturity very early), and Perfect Gem. JOHN DUNN.

Royal Kitchen Gardens, Windsor.

MISCELLANEOUS.

THE LAWN AND ITS MANAGEMENT.

FEW gardens are without grass of some kind. To call this "grass" in all cases a lawn is incorrect. Many lawns are patches of bad turf, but everyone appreciates the close, deep green "velvet pile" that good seed and good management will give. In

Forming a new lawn the ground must be carefully prepared. An open, level piece is preferable, but where this is not obtainable the soil must be removed from the highest to the lowest parts until the surface is quite level. If the ground is wet and retentive, drain-pipes 3 inches in diameter should be laid in 2½ feet deep, each row of pipes being 12 feet apart. These will carry off the surface-water. The pipes must have a gentle fall, and be connected with a cross main drain with a safe outlet.

The ground must be well dug to a depth of 18 inches or 2 feet, and, if poor, enriched with well-decayed farmyard manure. Digging completed, tread and rake the surface, finally well rolling it to make it firm. Where the natural soil is not of sufficient depth, more must be added, and it should be wheeled, not "carted," on to the plot, as the cart-wheels make hard ruts, and where the soil subsides an uneven surface is left. Planks should be laid down for wheeling on. The surface-soil to a depth of 3 inches or 4 inches should be of a rather fine character, as the seed germinates more quickly and the grass gets a better start in such a medium than in one of an opposite nature. The quickest, and probably the best, means of securing a good lawn is by covering the plot with grass sods, but unless they are of first-rate quality the more common method of sowing lawn grass seed should be resorted to. The sods may be laid down any time during fine weather from October to April; if laid later, they are apt to suffer from drought during a dry spring. From 1½ inches to 2 inches is a good thickness for the turves, and they should be laid close together, and afterwards well rolled at intervals throughout the winter—preferably after copious rains. If all goes well, the grass will commence to grow freely in April, at which time the surface should be well swept with a stiff broom in order to remove all stones and rubbish, which, if allowed to remain, would cause injury to the mowing-machine or scythe.

Management.—Allow the grass a little grace before mowing it for the first time to encourage root-action, and, if the spring be hot and dry, once a fortnight will be sufficient to mow during April and May. If possible, the lawn should be rolled every time it is mown during the first summer. If grass seed is sown, obtain it from a reliable firm, because some samples contain a large percentage of plantain and other rubbish. April and September are the best months for sowing, and the quantity of seed required is from half a pound to one pound to the rod, or from three bushels to six bushels to the acre. Well tread or roll the surface, and sow the seed quickly broadcast, afterwards covering it with fine soil and again rolling. As chaffinches and small birds are fond of grass seeds, it will be advisable to give it protection until the plants make their appearance. Covering the ground with

bushy Pea-roads answers well. When the grass is in active growth, give a moderate dressing of an improved fertiliser whilst the ground is moist with rain.

When the grass has grown 3 inches or 4 inches high, cut and roll it. Lawns that soon suffer from hot sun, owing to the soil being shallow or sandy, should receive a liberal dressing of fine soil and artificial manure annually. Mix the manure with the soil and spread it evenly over the surface, about half an inch thick, in January or early in February. Rain will then wash in the manure and most of the soil, and if the grass is well swept and rolled early in April, previous to mowing, its density will be increased and the quality improved. Where the soil is fairly deep and good, the turf will remain in good condition for an indefinite period if well attended to, but on shallow, hungry soil it wears out in time, even if top-dressed annually. The only course then open is to remove the soil to a depth of at least 12 inches, replace it with the best soil procurable, and, after levelling and rolling, either turf it over or sow it with the finest lawn mixture. When good soil and seed are used, few Daisies, Plantain, and other weeds occur. Grass seeds can hardly be sown too thickly for making new or renovating old lawns. For light or shallow soil it is always advisable to mix a fair quantity of clover with the grass seed, as, being of dense growth, it prevents the surface-soil from becoming parched.

Weeds.—Daisies and other weeds should be eradicated. Bentley's lawn sand, if applied according to printed directions sent with each

bag or tin, is a potent destroyer of them. Daisies may also be dug up with an old knife. Previous to commencing this operation, stretch two garden lines across the lawn 3 feet apart, then work between them; fill up the holes that the Daisies are taken from with fine soil, which should be beaten firmly into them. The bare places will then soon be covered with grass. If Daisies are numerous, dig them up early in April, and after the holes have been filled up a slight dressing of artificial manure and fine soil should be given.

Mowing is an operation that requires considerable judgment. As a rule, early April is the best time to begin, and if the grass is dense and vigorous it may be mown once a week. On the other hand, if thin and weak, once in ten days or a fortnight will be often enough. If possible, always mow the grass when dry, for if mown when wet it never looks well, besides which wet grass clogs and strains the machine. For lawns of large extent horse or pony machines are necessary, but leather boots must be placed on the animal's feet to prevent them from cutting into the turf. For small lawns use hand machines. Before commencing to mow in spring the edges of the lawn should be well rolled, and an inch cut off them with an edging knife.

Lawns are frequently neglected during winter; consequently worm-casts become numerous, and the turf gets coarse. The grass should be swept and well rolled in fine weather at least once a month throughout the winter. This will keep it not only in a healthy but also a presentable con-

dition. Where practicable a good supply of water should be laid on in close proximity to the lawn, in order that it may be well watered in dry weather by means of a hose. A verdant lawn is beautiful and restful, and may be made to remain so by employing a little cheap labour each year, and by giving an annual dressing with fine soil and an approved fertiliser.

Norfolk.

J. C.

A YEW WALK.

No evergreen plays so important a part in English gardens as does the Yew, whether clipped into a hedge or growing at will untouched by the shears. There is something about this truly English tree, one of our few native evergreens, that harmonises delightfully with our garden landscapes. Our grass lawns look all the smoother and our flowers look all the brighter for its nearness, while its close growth makes comforting shelter from biting winds, shielding tender vegetation almost as well as a solid wall of brick or stone.

Where flowers are in plenty there is nothing pleasanter or more refreshing to mind and eye than a Yew-bordered grass walk leading from one garden scene to another. The eye is relieved after contemplating one bright picture, and the restful transit along the quiet green way prepares it in the best possible manner for the enjoyment of the next.



YEW WALK AT HUNSTANTON.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

RANUNCULUS LYALLI.

[TO THE EDITOR OF "THE GARDEN."]

SIR.—I have addressed you already more than once regarding this handsome New Zealand plant, but as I visited a locality in which it grows, about a couple of months ago, I thought that perhaps on account of what I saw might interest some of your readers.

During the last week in November I visited the head of Lake Wakatipu, a large lake some sixty miles long and 1,000 feet above sea-level, lying at the base of the Southern Alps. One day I climbed a spur of Mount Earnslaw, a noble mountain whose summit is covered with perpetual snow and in whose bosom lies a fine glacier. The lower part of the mountain spur is clothed with lovely Birch forest, or Beech, as it should properly be called, and after passing through this I emerged into the open, where grew a few Veronics and Dracophyllums amongst the small stone slides and at the edges of the large patches of tussock grass. I crossed the rocky ridge below, on which were some patches of snow, and on the other side, below the ridge, found a grassy sloping plateau which had been recently under heavy snow, as the grass was all flattened. Here at intervals I found a good many plants of *Ranunculus Lyalli* scattered amongst the grass, some just pushing their curled-up leaves through the soil, others further advanced. Many of them were just underneath where a stone projected from the ground. All about were large fields of snow, and in the neighbourhood of these the ground was still frozen so hard that my walking-stick struck as on a paving-stone. The rest of the ground was very wet, but not boggy, and the soil was a dark peaty loam. The altitude where the *Ranunculus* grew was about 5,000 feet.

A day or two later I went up the valley of the Routeburn, where a track leads to a saddle which may be crossed in summer to the west coast. There was too much snow to permit our gaining the summit of the pass, but we reached Lake Harris, a mountain tarn lying at the foot of the final ascent to the saddle. The greater part of the lake was covered with ice. On the way thither, some time after we had passed the bush line, we passed up part of the valley where it opened out into what might be called a mountain meadow, sloping gently towards the stream. Here grew many Veronics (chiefly *Hectori*), *Dracophyllums*, *Olearia moschata*, two or three species of *Celmisia*, and here and there at least two species of *Ourisia*, one bearing large trusses of white flowers. At one point in this meadow, where a tributary stream had cut a cleft in the peaty soil, some 6 feet or 8 feet deep and perhaps double that width, there grew several plants of the *Ranunculus*, one of which bore six or eight stems in full flower, the others showed no sign of throwing up flower stems. They all grew about half-way down the steep bank of the cleft. The one in flower was probably early because of its sheltered position and sunny aspect. At another place lower down the valley a large number of *Ranunculus* grew in a scattered open clump above the stream, nearly all of them bearing many-budded flower stems just coming into flower, with the more forward buds showing the white of the bursting petals, but none actually opened. All we saw in this valley were much further advanced than those I had seen on Mount Earnslaw. Everything I saw confirmed what I had already written to you that this plant likes a moist peaty soil with good drainage, but given the moisture and the drainage it will grow in any garden soil. It should thrive in England in any rock garden where these requirements, with a good depth of soil, could be supplied. As to its hardiness there can be no doubt when it is borne in mind that I saw it pushing through the ground at the end of November (which corresponds to the English May), within a few yards of frost-bound

earth, a condition in which the soil in which it was growing must have been a very short time before.

Unfortunately, it is very difficult to grow from seed, as the seed does not keep well, and generally, even when fresh, takes a long time to germinate. A local nurseryman told me he got the best results by sowing it on sphagnum. The seed will, however, sometimes grow after having been sown a year or more. The plant has another drawback—it is an uncertain flowerer. Even in its native mountains in some years there will be abundance of blossoms and in others very little, but its handsome leaves are always striking.

Dunedin, N.Z.

A. BATHGATE.

CAMELLIAS IN THE OPEN.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The numerous interesting notes from various southern counties that have lately appeared in these columns respecting the hardiness of the *Camellia* must at least have assured readers of its value as an evergreen, independently of its worth as a flowering subject, for, as has been stated by certain correspondents, its foliage withstands the effects of frost far better than does that of the Portugal Laurel or the common Laurel, while I have seen the leafage of *Rhododendron ponticum* badly cut when that of a *Camellia* hard by was uninjured. It must be admitted that the blossoms, some of which expand as early as the shortest day of the year in the south-west, are liable to injury by frosts and heavy rains, but the blooming period is so extended, some plants bearing flowers well into June, and successional flowers are produced in such profusion, that with the cessation of frost and storms the bushes are soon again bright with unblemished blossoms. Although, as has been already pointed out, *Camellias* succeed in the open in many of the southern counties, and I remember some years back seeing some remarkably fine specimens in the open air at Battle Abbey, the luxuriance of growth exhibited by these plants along the southern coast line of Cornwall is, I fancy, peculiar to that locality. There, as the head gardener of an estate notable for its splendid collection of Himalayan *Rhododendrons*, remarked to me, *Camellias* grow like Willows. Great bushes, many feet in height and diameter, stand upon open lawns, for here they do not appear to need the partial shade in hot weather advocated by one writer, with splendid sprays which assume a pendant character under the weight of blossom that they bear, one little shoot often carrying a dozen or more blooms, presenting delightful pictures when they reach the zenith of their display, which generally occurs in the month of March or in the early days of April, for many weeks from which time the ground around the bushes is deeply strewn with scattered petals, crimson, pink, and white. Numberless varieties are grown, but perhaps there are none that exceed in beauty *Camellia reticulata*, with its great semi-double blossoms of soft rose, sometimes 6 inches in diameter.

Duron.

S. W. FITZHERBERT.

COOL STORAGE OF APPLES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Undoubtedly this is a very important question in connection with most fruits, and especially with the Apple. In your leading article in *THE GARDEN*, March 16, reference is made to the keeping of these by two eminent growers, and their methods are very similar. During the greater portion of my life I have been more or less connected with Apple culture. I remember as far back as 1860 that my father purchased many late kinds from Farley House during February and March, and, taking the fruits to a leading fruiterer in Bath, obtained a good price, some fruits of Ribston Pippin realising quite as much as is now given for Newtown Pippins. They were well grown on young standard and bush trees, gathered very late, and stored in an old tower in the bottom portion, the floor being soil. This tower was of rough stone and had very thick walls, consequently away from light and air, with a very even temperature. When the fruits came out

of this tower they were as firm as when put in, and well I remember enjoying fruits of the old Nonpareil well into the spring. Ever since that time I have been observing the keeping qualities of Apples in various structures, and I say that many of the fruit stores at the present time in use are practically useless, and the sooner they are abolished the better, and those constructed on the principles of Mr. Crump's put in their place. The fruit room usually has every appliance but the one needed to keep fruit fresh and plump well into the spring. About two years ago, in August, I was on a visit to a garden of renown in Devonshire, near Crediton. The chief of that place is renowned for his good Apples. There is an Apple store underground, formerly a large water storage for the supply of the mansion, but fell into disuse through the water being obtained from another source. Steps were made down into it and shelves put to place the fruit upon. On asking particulars regarding the keeping I was told that good sound fruit was kept there most seasons until the new crop came, and that the flavour did not suffer in the same way as fruits stored in a fluctuating temperature. This one can understand, seeing that it is only reasonable to suppose that when the fruits change so rapidly the flavour must also in some degree. In our own garden last year I stored from seven bushels to eight bushels of Sturmer Pippin in an old air-tight case and did not expose them till the early part of March, when they were as fresh as when put in. Until more attention be paid to the storage and kinds grown we must pay a large amount to foreigners for fruit. A large portion of this trade should be kept in our own country.

J. CROOK.

NOTES FROM SCOTLAND.

ROYAL BOTANIC GARDENS, EDINBURGH.

A VISIT paid recently to these well-known public gardens showed many changes to have been made during the dull months of the year. More alterations have been effected in the Arboretum, where large Hollies are now grouped at wide distances apart, and broad walks have been extended to the north of Inverleith House. Here also a large mass of standard Forsythias coming into bloom promises to be very effective, and a bed of the hybrid *Rhododendron præcox* was very pretty. The new Rose garden has been considerably enlarged, and in the Botanical Garden a border has been laid out and planted with rare or uncommon shrubs. A pleasing and novel feature is apparent in the wide breadths of spring flowering bulbs planted in the old gardens. Moreover, changes in the rock garden have progressed, and a lot of new planting has been done. Here a group of *Rosa wichuriana* planted last year has completely covered the ground, and the wall of a sunk pit furnished at the same time with *Ramondias* show these in luxuriant health. Among the plants in flower are such good things as *Saxifraga Boydii*, *S. B. alba*, *S. burseriana*, *S. B. multiflora*, *S. apiculata*, *S. sancta*, *S. Elizabetha*, *S. rocheliana*, and *S. imbricata*. *Shortia uniflora* and *Morisia hypogaea* are other pretty alpine now in flower.

In the glass department there is a notable addition of five new structures in one block. One of these is fitted up as a hot house propagating pit, another is devoted to foliage plants, a third planted with uncommon flowering shrubs, while a fourth is used for the cultivation of Karatoax. *Dyckia*, *Tillandsia*, *Guzmania*, *Bromelia*, and other Bromeliads. The several Genera are arranged in separate groups, planted in raised borders of soil, pieces of stone being effectively intermixed. Various climbing plants are trained to the roof. The largest structure, a *Nepenthes* house, 81 feet by 18 feet, is already furnished with quantities of *Nepenthes*, many of which are suspended from the roof, and many more planted out along with other hot house plants in raised borders; among the latter *Musa coccinea* displays its bright crimson bracts. It is interesting to recall the interesting fact that *Musa Sapientum* flowered for the first time in 1778, in the Old Botanic Garden. In the succulent house *Agave*

attenuata is now flowering very finely. Colville's single Camellia was noted as a lovely white variety well worth cultivating. There is in the Orchid house a good display of *Cattleya Trianae*, *Cypripediums*, *Odontoglossums*, &c. Though there still remains much to do before the improvements initiated some years ago can be finished, the work is now so well forward as to show that the completed gardens will be of the greatest value to gardeners as well as to others not so strongly imbued with the horticultural spirit. B.

NURSERY GARDENS.

MESSRS. T. S. WARE, LTD.

IF a pure country atmosphere influences the growth of plants and their seed-bearing capacities—and it most certainly does so very considerably—then the plants and seed produced on the Hale Farm Nurseries of Messrs. Ware, at Feltham, Middlesex, should be of the best, both as regards quantity and quality, for the extensive acreage devoted to the culture of hardy herbaceous and alpine plants, fruit trees, &c., lying in a sheltered nook of the

early in the year a sheltered situation is beneficial. *Iris fimbriata*, one of the best half-hardy Irises, has beautiful sky-blue flowers, fringed and veined with white.

The Hepaticas are just now amongst the most showy of the plants in flower at Feltham, and very charming they are, *H. angulosa* (bearing large clear blue blooms), *H. triloba* (syn. *Anemone Hepatica*) in its several varieties, *corulea*, *alba*, *variabilis*, *v. alba*, and *v. violacea* all sufficiently self-descriptive. Many of the tiny *Saxifragas* are now in full beauty, notably *S. burseriana*, *S. b. major*, *S. oppositifolia* and its varieties *alba* and *pyrenaica*, *S. apiculata*, *S. sancta*, &c. *Scilla sibirica*, and the lovely white form of this *S. s. alba*; *Soldanella alpina*, bearing deep purple-coloured, bell-shaped flowers, beautifully fringed; many fine varieties of forced Daffodils, quaint Dog Violets (*Erythroniums*), Winter Aconites, *Chionodoxas*, *Fritillarias*, *Primula Forbesi*, a pretty little plant that has been in flower the whole winter in a cool house, are a few of the many interesting little plants now at their very best. The beds and borders devoted to the culture of *Narcissi* are just beginning to look bright, and in a few weeks' time will be alone well worth a visit. Mention of the herbaceous plants, fruit trees, and hardy flowering

hardy and tender plants that Messrs. T. S. Ware have in their nurseries; but the mention of those few must be taken as indicating the presence of many others equally as interesting and delightful.

THE FLOWER GARDEN.

THE VARIOUS GROUPS OF DAHLIAS.

THERE are many groups of Dahlias, as the following selection of varieties will show, but probably the Cactus kinds are more thought of than any other, their strangely picturesque form, brilliant and varied colouring, and usefulness for cutting, bringing them into greater prominence than the more formal "show," or so-called "decorative" kinds. Each year many beautiful additions are made to the Cactus Dahlias, and gradually an unpardonable blemish in their character is being removed. The flowers of many handsome varieties hide themselves amongst the leaves as if loth to appear in full sunshine. Of course, the effect of the plant is that of leaf with a glimmering of colour from the half-hidden flowers. Raisers must try and remedy this defect.

Culture.—Dahlias delight in rich deep soil—inclined to be heavy rather than light—and ample drainage is essential, because frequent waterings are necessary during drought. Never plant in positions overhung by tall trees, or spindly growth and few flowers will be the result. Get the plants out immediately all fear from frost is over, but the end of May will be quite early enough, or even the first part of June in cold places. The young succulent growths of the Dahlia quickly suffer from low temperature, and as the month of May is sometimes very treacherous the young plants should be given slight protection at night. Spring-rooted (young) plants are preferable to old roots. When the plants are thoroughly established in their permanent quarters a stout stake should be driven into the ground a little distance from the main stem; this must be securely tied with strong tar twine, and four or five thinner stakes placed round each plant. Carefully tie out the flower-producing branches. Keep the centre of the plants well thinned out so as not to impede light and air, so important in the production of shapely flowers. If the latter are required for exhibition limit each shoot to one flower, all the others, of course, being removed in the early stages of development. Dahlias must not be crowded, 5 feet apart each way being not too much for kinds of vigorous growth. It is more satisfactory to give a few plants proper room to develop than to grow double the number on a space sufficiently large for half the number. In very dry seasons a mulching of decayed manure is advisable to prevent moisture in the soil escaping too quickly. When the flower-buds are formed applications of liquid manure are beneficial.

Propagation.—Of the several ways of raising Dahlias only two are practised on anything like a large scale. These are (1) by cuttings, and (2) by seed. In order to raise plants from cuttings take the old roots in spring, generally about the middle or end of February, and plant them in pots or boxes, or on a bed of ordinary soil on a shelf near the glass, in a temperature of about 60°. After planting give a good watering and occasional dampings until growth begins. When the shoots are a few inches long take them off as near the roots as possible and insert each one in the centre of a small 2½-inch pot, after which remove to a hot-bed or a close case with bottom heat. Plunge the pots to the rim, water overhead, keep the lights close, and protect from the sun by mats, tiffany, &c., rolled over the glass. When rooted through, which will occur in a fortnight's time, they should be taken to cooler quarters and grown on in larger pots. Before planting time the plants should be thoroughly hardened off. Stand them in a cold frame, and a week or so before planting time remove the lights altogether.



THE NETTED IRIS (*I. RETICULATA*) IN MESSRS. WARE'S NURSERY AT FELTHAM.

Thames Valley, between Feltham and Sunbury, is eminently suited to the well-being of the above. The herbaceous borders offer but little attraction to the visitor at this early season, interest now being chiefly centred in the charming little alpine and the numerous greenhouse flowering plants. That the alpine plants would prove to be of great interest one might well have supposed from the delightful exhibits sent by Messrs. Ware to the Drill Hall, Westminster, on several recent occasions. *Iris reticulata* planted out in a low glass house is particularly happy (see accompanying illustration), and now in full flower. This is indisputably one of the most charming, and also most popular, of spring Irises, and doubtless the latter fact is chiefly due to its easy culture, for it is perhaps more easily grown than any. *Iris stylosa*, *I. s. alba*, and *Iris fimbriata* are others that are thought highly of at the Hale Farm Nurseries. *Iris stylosa* is a lovely winter-flowering species, having light blue flowers with yellow blotches, produced in abundance so early as January. *I. stylosa alba*, a pure white variety, flowering at the same time as the type, has been honoured with a first-class certificate by the Royal Horticultural Society, and better evidence of its value could not be wished for. This *Iris* is perfectly hardy, but as the flowers are produced so

shrubs may well be left until the season when these will be in a condition to warrant description.

Messrs. Ware have lately considerably extended their glass accommodation, and are largely increasing their stock of tender plants. The Tree Carnations, now universally recognised as valuable winter-flowering plants, have a large house to themselves, and prominent amongst them is a variety called *Irma*; in colour it is a deep rose, finely striped with delicate rose, and, to judge from its present appearance at the end of a dull winter, it is one of the best of the so-called perpetual flowering Carnations. Thousands of *Chrysanthemum* cuttings are struck—not, however, for the purpose of producing exhibition blooms, as they are disposed of long before then. Several houses are filled with *Marguerites* in variety, strong deep green foliage plants, that promise well for a successful flowering season. Although the yellow one is not so popular as the white, to judge from the quantity of each here cultivated, it is apparently in good demand, and the time will come, no doubt, when white and yellow *Marguerites* will be used together almost invariably. Border Auriculas are evidently favourites with the patrons of Messrs. Ware, for many hundreds of them are grown, and will in a few weeks time be in full blossom. We have only been able to mention a few of the many choice

Raising from Seed.—Dahlias are raised readily from seed sown in February or March in a brisk heat. When of sufficient size the seedlings should be planted in small pots and treated in exactly the same way as recommended for the rooted cuttings.

Insect Pests.—Dahlias have their enemies, and earwigs are among the most troublesome. They may, however, be kept under by placing a little moss or hay in 3-inch flower-pots and inverted on the tops of the main stakes. The pots should be examined every morning and the earwigs destroyed.

Storing the Roots in Winter.—It is unusual to lift the plants until the growths have been destroyed by frost—usually in November—then cut the stems down to within 5 inches or 6 inches from the soil, lift the roots carefully and shake the soil away. When the roots are dry, each variety should be properly labelled and placed in a warm, dry, airy place, such as a shelf in a potting-shed, greenhouse floor, &c.

Cactus Varieties.—The following are beautiful Cactus Dahlias: Alfred Vasey, flowers orange-yellow, touched with light salmon, very free; Austin Cannell, reddish mauve, touched with crimson near the base of the long narrow petals; Brema, pink, with a delicate peach centre; Britannia, pale salmon-pink, flushed with apricot—the florets are long, narrow, and incurve beautifully; Cannell's Gem, bright orange-scarlet; Charles Woodbridge, intense crimson, tipped and suffused with purple; Countess of Lonsdale, delicate salmon-pink, tipped and suffused with apricot; Crimson King, rich crimson, touched with scarlet near the tips; Cycle, bright ruby-red, tipped with carmine; Dr. Jameson, brilliant crimson, suffused with warm purple; Exquisite, light orange, distinct and very free; Falka, carmine, suffused with crimson; Fusilier, orange-scarlet, suffused with coral-pink; General French, bright terra-cotta or orange-red; Gloriosa, rich scarlet; Green's Victory, glowing scarlet, touched with crimson; Henry Ayres, deep crimson, tipped with purple; Iona, terra-cotta passing to orange; Island Queen, lilac, suffused with mauve; J. E. Frewer, vermilion; John H. Roach, rich yellow; Juarezii, crimson-scarlet; J. W. Wilkinson, crimson or ruby-red, tipped with rose; Keyne's White, white; King of Siam, purple, touched with crimson-maroon, very free; Leonora, rich rose, suffused and tipped with pale pink; Lord Roberts, cream-white, with a deeper centre; Lyric, bright scarlet; Magnificent, soft salmon-pink, shaded with apricot; Mary Service, exquisite shade of heliotrope, the basal portion of the petals yellow; Matchless, maroon, touched with purple; Miss A. Nightingale, terra-cotta and yellow; Miss Finch, carmine-rose, shaded with crimson; Mrs. B. Barker, purple passing to a lighter shade; Mrs. H. Cannell, rich scarlet shaded with amber; Mrs. John Goddard, glowing crimson; Mrs. J. J. Crowe, rich yellow; Profusion, rosy purple self, very free flowering; Progenitor, rich scarlet, suffused with purple, petals broad and forked at the tips; Ranji, deep velvety maroon, petals long and narrow; Robert Cannell, rosy carmine; Rosina, bright rosy red, with paler shadings; Ruby, ruby red, tipped and shaded with carmine; Starfish, orange-scarlet, a superb flower for form; Stella, rich scarlet, suffused with crimson, very free flowering; Tillie, salmon, tinged with rosy mauve; William Cuthbertson, bright scarlet, touched with carmine, very free.

Decorative Cactus Varieties.—Baron Schroder, purple; Constance, white, free flowering; Grand Duc Alexis, large, white; Henry Patrick, pure white; Miss Jane Basham, orange, touched with salmon-pink; Orange Glare of the Garden, rich orange-red, unusually free flowering; Rayon d'Or, bright orange, the centre of each petal striped with white; Salisbury White, pure white, very floriferous. These are not of the true Cactus type.

Pompon Varieties.—Alwine, pink, touched with heliotrope; Annie Holton, crimson, tipped with white; Arthur West, crimson; Bacchus, brilliant scarlet; Ceres, pale primrose-yellow; Claribel, pale pink, edged and suffused with rosy purple; Dagmar, deep maroon, shaded crimson; Darkness, maroon; Dr. Jim, very pale purple, edged with a deeper shade; Doris, rich rose, flushed with purple;

Fairy Tales, clear primrose-yellow; Fashion, rich orange; Ganymede, amber-yellow, tinted lilac; George Brinckman, pure white; Hilda, rosy purple, edged with cream-white; Iris, yellow, flushed with pale salmon; Katie Parnham, light purple, shaded and edged with rosy purple; Little Sweetheart, scarlet, slightly edged with white; Mars, very bright scarlet; Midnight Sun, crimson-maroon; Model, light pink, suffused and edged with deeper shadings; Nemesis, maroon; Nerissa, rose-pink, faintly suffused with white; Opal, lemon-yellow, edged with white; Phoebe, rich golden orange, suffused with scarlet; Red Indian, scarlet; Sunny Daybreak, pale apricot, tipped and flushed with red; Thalia, deep lilac, with a white centre; Whisper, rich yellow, edged and suffused with gold. The beginner should get White Aster, snow white, one of the most valuable of all Dahlias for cutting and for the garden, and Zerlina, deep crimson, almost maroon. The Pompon is quite an old world group, and most useful for cutting.

Single Cactus Varieties.—Althea, deep crimson; Brenda, chrome-yellow, twisted petals; Fair Maid, delicate pink, passing to a deeper tint; Guy Manning, cream-white, with a paler centre; Maid of Bute, rose-pink, distinct and showy; Meg Merries, rich yellow; and Queen Mary, pure white. These are very pretty flowers for cutting.

Single Varieties.—Charles Parrot, deep maroon, margined with crimson-scarlet; Cleopatra, rich crimson; Columbine, rose-pink, touched with orange near the centre; Daisy, rosy crimson, variegated with white; Demon, deep maroon; Duke of York, bright orange-scarlet, with a yellow circle round the disc; Eric, rich scarlet suffused with rose towards the tips; Flame, rich orange-yellow, striped and splashed with scarlet; Folly, pink, tipped and shaded with rose; Girlie, cream, margined with red; Goldenlocks, bright yellow; Guilelma, white, edged with yellow; Leslie Seale, pink, with a distinct crimson band near the yellow disc; Nellie Nicholson, white edged with rosy red; Puck, orange or bronze-yellow, with a crimson ring round the disc; Shamrock, crimson-maroon, tipped with rose; Trilby, velvety crimson, distinctly tipped with pink; Veronica, scarlet, tipped with amber; White Queen, pure white.

Show Varieties.—Arthur Rawlings, deep crimson; Cherub, deep amber; Chieftain, purplish lilac; Daniel Cornish, red, suffused with orange; Duchess of York, lemon-yellow, tipped with salmon-pink; Empress, lilac-purple, splashed with crimson; Florence Tranter, blush-white tipped with rosy purple; Gracchus, orange-yellow; Gwendoline, bright crimson; Harbinger, lilac-pink; Harry Keith, rosy purple; James Cocker, purple; J. T. West, yellow, edged with purple; Marjorie, bronzy yellow, flushed and edged with pale purple; Mrs. Gladstone, pale blush; W. H. Williams, brilliant scarlet.

Fancy Varieties.—Comedian, orange-yellow, speckled with crimson and edged with white; Frank Pearce, clear rose, splashed with crimson-scarlet; Frederic Smith, lilac, striped with purple; George Barnes, rosy lilac, streaked with crimson; Golden Fleece, yellow, speckled with crimson; Gold Medal, rich canary yellow, striped and splashed with red; Heather Bell, crimson, tipped with white; Matthew Campbell, apricot-yellow, striped with crimson; Novelty, blush white, streaked with rose-pink; Peacock, purplish maroon, edged with white; and Watchman, yellow, speckled and striped with crimson.

Obituary.—We regret to hear of the death of M. Alexis Dallièrre, a well-known Belgian horticulturist, on March 17, after a short illness. The funeral took place on Thursday, March 21.

Cornwall Daffodil and Spring Flower Show will take place on Thursday and Friday, April 11 and 12 next. The Hon. John Boscowen, Tregye, Perranwell, is the honorary secretary.

The Gardeners' Royal Benevolent Institution.—His Majesty the King has been graciously pleased to continue his patronage of this institution. We may remind our readers that the sixty-second festival dinner in aid of the funds

of this institution will take place on May 22, the first day of the Temple show, when Lord Llangattock will preside. The secretary will gladly receive the names of any gentlemen who would kindly act as stewards, or who would like to attend the dinner. Mr. George Ingram is the secretary, 175, Victoria Street, London, S.W.

The East Anglian Daffodil Show will take place in Easter week—Wednesday, April 10—in the Corn Exchange, Ipswich. The net proceeds of the show will be given to the East Suffolk and Ipswich Hospital. The hon. secretaries are Mr. John Andrews and Mr. A. E. Stubbs, 6, Princes Street, Ipswich.

A National Sweet Pea Society. At a well-attended public meeting of persons interested in the cultivation and exhibition of the Sweet Pea, held at the Hotel Windsor on the 26th inst., Mr. George Gordon, V.M.H., presiding, it was unanimously resolved, on the recommendation of the general committee of the Sweet Pea Bicentenary Celebration, to then and there form a National Sweet Pea Society; and an executive committee representative of all classes of horticulturists was formed to prepare rules, nominate vice-presidents, &c., and draw up a draft schedule of prizes to be offered at an exhibition to be held during the coming summer. Mr. George Gordon, V.M.H., was appointed chairman of the executive committee; Mr. N. Sherwood, treasurer; and Mr. R. Dean, secretary *pro tem*. In order that no time should be lost in perfecting the organisation, the executive committee will meet at once, and push on the work without loss of time. A considerable number of names were handed in as members, and the minimum subscription was fixed at 5s. per annum. Communications respecting the newly-formed Sweet Pea Society may be addressed to Mr. R. Dean, V.M.H., 42, Ranelagh Road, Ealing.

Birstall Chrysanthemum and Paxton Society.—The annual dinner of this society was held on Wednesday at the Black Bull Hotel, Birstall, and was a most successful gathering, not only in point of numbers—as the attendance was unprecedented in the history of the society—but in regard to the spirit of intense enthusiasm which characterised the proceedings from beginning to end. The tables were profusely decorated with plants and flowers of every description, which, together with the button-holes worn by all present, produced a charming effect. Mr. J. Spurr Hodgson (a hard working member of the society and a past president) occupied the chair at the after proceedings. An excellent toast list had been arranged and was admirably carried out, and the tone of the speeches, both of members of the society and the visitors, was highly favourable. It was stated by one of the members of the committee that the society were intending during the coming season to arrange a series of lantern lectures, &c., on various subjects of horticulture, and a suggestion was also thrown out that the society should offer prizes to school children for making bouquets, as it would be a means of getting the children to take an interest in the society and in all matters pertaining to horticulture. The toast list was interspersed with vocal contributions by a glee party, who rendered several glees, &c., in an acceptable manner, and the company broke up at eleven o'clock, after having thoroughly enjoyed themselves.

SOCIETIES.

GRASSENDALE HORTICULTURAL SOCIETY.

The annual fixture was held in the parish room on March 23, in splendid weather that should have induced a much larger attendance. The exhibits seemed hardly so numerous as usual; the bulbs and forced plants were well up to the mark, and Amaryllis and Cyclamen were excellent.

Mr. W. Evans, gardener to Mrs. Lockett, secured firsts for twelve Hyacinths with good spikes, Charles Dickens, Von Schiller, and alba maxima being fine; for three varieties of Hyacinths, one greenhouse Rhododendron, Lily of the Valley, three Spiras, and four pots of herbaceous plants. Mr. F. C. Keightley, gardener to Mrs. Duncan, led with six pots of Narcissi (well bloomed), six pots of single Tulips, six pots of doubles, one stove plant (Clerodendron balfourianum), one Azalea, and two Palms. Mr. T. Johnson, gardener to Mrs. G. W. Moss, won for Amaryllis with grand varieties.

For two Orchids, Mr. C. Duke, gardener to F. R. Cross, Esq., scored with *Dendrobium nobile* and *Lycaste Harrisonæ*. Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., had the best Orchid in *Dendrobium thysiflorum* (five table plants) and one bouquet. Mr. T. Ankers won for three *Azaleas*, four *Cyclamens* (very fine), and one hardy *Azalea*. Mr. W. Leadbeater, gardener to J. Davey, Esq., scored for a single Palm (*Kentia fosteriana*), and Mr. P. McKivitt for two pots of *Callas*. Messrs. E. Evans and T. Johnson, chairman and secretary, are to be congratulated upon their successful efforts.

BECKENHAM HORTICULTURAL SOCIETY.

LECTURE ON ROSES BY MR. MOUNT OF CANTERBURY.

MR. MOUNT, who for many years has so successfully grown Roses, and has secured the Royal Horticultural Society's gold medal at the Temple Show on three separate occasions, addressed the members on "Roses under glass," as grown at Canterbury. The lecturer explained pruning as best for different varieties, the temperature to be 50° to 55°, with an increase with sun. Soil, two parts loam, one manure, one sand and wood-ash, never using pots larger than 8-inch. Feeding commenced when shoots 6 inches long with sheep manure and soot in solution, with an occasional dose of some artificial manure. The best sorts for cutting were Mrs. John Laing, La France, Captain Hayward, Mme. Montet, Catherine Mermet, Bride, Bridesmaid, Anna Olivier, Niphetos, Catherine Testout, Mrs. S. Crawford, and one of promise named Liberty. The lecturer brought splendid cut blooms of most of the above sorts, and a very fine pot plant of Mrs. John Laing. A hearty vote of thanks to Mr. Mount brought to a close a very pleasant and profitable evening.

ROYAL HORTICULTURAL SOCIETY.

ORCHID COMMITTEE.

PRESENT: MESSRS. H. J. Veitch (chairman), James O'Brien, De B. Crawshaw, R. Brooman White, H. M. Pollett, James Douglas, E. Hill, T. Rouquet, H. Ballantine, H. Little, Walter Cobb, Frank A. Rehder, H. J. Chapman, W. H. Young, F. J. Thorne, H. T. Pitt, and Jules Hye Debrum.

Messrs. Hugh Low and Co., Bush Hill Park Nurseries, Enfield, arranged a pleasing group of Orchids, including many fine *Dendrobiums*, of which *D. fimbriatum oculatum*, *D. brymerianum giganteum*, several fine forms of *D. wardianum* and *D. nobile*, *D. barbatulum*, bearing racemes of medium-sized white flowers, and *D. crassinode alba* were conspicuous. *Cypripedium rothschildianum*, *Cattleya Schroderæ*, and *Lælia jongheana* were also finely represented. Silver Banksian medal.

Messrs. James Veitch and Sons, Limited, Royal Exotic Nurseries, Chelsea, exhibited an attractive group of Orchids, comprising several plants of that beautiful hybrid *Lælia-Cattleya*, *L.-C. Pallas*, *Epidendrum Clarissa*, *Dendrobium Sostis*, a fine dark-coloured form; *Chysis Sedeni*, a charming flower obtained from a cross between *C. Limminghei* and *C. bracteescens*, *Dendrobium Wardianum-japonicum albidum*, *Lælia-Cattleya* \times *Myra*, and others, notably the hybrid *Cymbidium C. eburneo-louianum*. Silver Flora medal.

Messrs. F. Sander and Co., St. Albans, sent a very fine *Odontoglossum excellens*, var. *O. loochristense*, and a hybrid between *O. crispum* and *O. triumphans*, *O. crispum Sunshine*, and *Dendrobium nobile-wardianum*. A new *Phaius*, a secondary hybrid between *P. Marthæ* and *P. sanderianus*, was also included in this exhibit.

H. F. Simonds, Esq., Woodthorpe, Beckenham (gardener, Mr. G. E. Day), exhibited several well-grown plants of *Dendrobium formosum giganteum*, to which a cultural commendation was awarded.

R. J. Measures, Esq., Ladymead, Sussex (gardener, Mr. W. Watson), showed *Cypripedium Zeus*, a large and handsome flower (callosum \times ciliolare). *Odontoglossum crispum Bella* was sent by Mr. John Weathers, Silverhall Nursery, Isleworth.

H. M. Pollett, Esq., Fernside, Bickley, Kent (gardener, Mr. F. Fry), showed a pseudo-bulb of *Dendrobium wardianum grandiflorum*, bearing numerous flowers.

Walter Cobb, Esq., Tunbridge Wells, sent *Odontoglossum triumphans dulcense* and *O. crispum Elamii*, both very striking flowers. D. O. Drewett, Esq., Willow Wood, Riding Mill Hill-on-Tyne (gardener, Mr. R. Etty), exhibited *Cypripedium Juno* and *C. Robert Etty*. *Lælia jongheana Keelingæ* was shown by A. G. Keeling, Esq., Cottonley, Bringley, York. *Cattleya Triane* Empress of India was sent by John Bradshaw, Esq., The Grange, Southgate (gardener, Mr. G. Whitelegge), and also *Cattleya Triane* Mafeking, both flowers of lovely colouring.

M. Jules Hye, Ghent, showed *Lælia-Cattleya Myra* var. *Etoile d'Or*, a beautiful clear yellow in colour, with slight orange markings on the lip. A. H. Smees, Esq., The Grange, Carshalton, Surrey (gardener, Mr. W. E. Humphreys), exhibited *Lælia-Cattleya Pallas*, the two flowers borne on the raceme showing a remarkable difference of colouring.

M. Jules Hye, Ghent, was awarded a silver-gilt Flora medal for a plant of *Odontoglossum Souvenir Franz Maseral*, bearing a raceme of remarkably beautiful flowers. There were no less than thirteen flowers on the raceme. The ground colour is dull white, although not much of this is visible owing to the numerous blotches and markings of crimson brown over the petals and sepals. This has previously received a first-class certificate.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young), showed *Lælia-Cattleya digbyana* (*C. Triane* \times *L. digbyana*) and *Cattleya Cecilia Louis Chalon* (*C. lawrenceana* \times *Triane*), two beautiful hybrids. *Odontoglossum liliiflorum*, a quaint flower with crinkled petals and sepals, white except for purple markings in the centre of the flower, was sent by Dr. T. Pritchard Davies, Kent County Asylum, Maidstone (gardener, Mr. W. Keylock). M. Lucien Linden, Brussels, exhibited *Phalaenopsis grandiflora Borneensis rosea* and *P. g. citrata*.

W. Thompson, Esq., Walton Grange, Stone, Staffordshire (gardener, Mr. W. Stevens), sent a fine plant of *Odontoglossum*

Victoria Regina. This is a lovely variety, the ground colour of a bluish tinge, spotted with chocolate-red. Cultural commendation.

Dendrobium Ainsworthii var. *Vigil* was shown in splendid form by Mrs. Haywood, Woodhatch Lodge, Reigate (gardener, Mr. C. J. Salter), as also was *Dendrobium splendidiissimum* var. *Mrs. Haywood*.

A most interesting collection of inconspicuous Orchids was exhibited by Sir Trevor Lawrence, Bart.; included were *Vanda coerulescens*, various *Masdevallias*, *Restrepia antennifera*, *Dendrobium barbatulum*, *Spiranthes pauciglossum*, *Dendrobium subulatum*, *Celeogyne sparsa*.

FRUIT COMMITTEE.

Present: Messrs. George Bunyard (chairman), Henry Esling, James Cheal, W. Bates, S. Mortimer, A. Dean, George Kelf, Charles Herrin, James H. Veitch, William Fyfe, E. Beckett, G. Reynolds, A. Ward, George Wythes, H. Balderson, G. Norman, J. Willard, W. Farr, and Rev. W. Wilks.

Pear Easter Beurré was well shown by the Earl of Ilchester, Holland House, Kensington (gardener, Mr. C. Dixon). Cultural commendation.

Lord Wantage, Wantage House, Berks (gardener, Mr. William Fyfe), sent a pale yellow conical Apple for a name. A seedling Apple was shown by Mr. H. Kempshall, The Gardens, Lamport Hall, Northampton, but no award was made. Apple Litamein Pippin or Milk Apple, was shown by John Watkins, Esq., Withington, Hereford.

FLORAL COMMITTEE.

Present: W. Marshall, Esq., in the chair, and Messrs. H. B. May, H. S. Leonard, C. T. Drury, R. Dean, E. Molyneux, H. J. Jones, J. F. McLeod, J. Hudson, J. Jennings, W. Howe, C. Jeffries, C. R. Fielder, J. Fraser, C. Dixon, C. J. Salter, C. E. Shea, H. J. Cutbush, R. C. Notcutt, G. Gordon, C. E. Pearson, W. Wilson Ker, W. P. Thomson, E. H. Jenkins, W. J. James, H. Turner, G. Paul, Rev. F. Page-Roberts, and E. H. Krelage (visitor).

Having regard to the bitterness of the weather on Monday and Tuesday, the meeting was a very full one, and, strange to relate, though many things came long distances, no sign of being overtaken by the frost was visible in the plants shown. Doubtless one of the most striking groups was that of *Hippeastrums* from Captain Holford, Westonbirt, Gloucestershire (Mr. A. Chapman, gardener). The collection occupied one entire table, and displayed some of the finest of this fine race of plants. Among the scarlet and crimson-scarlet shades we noted *Titans*, *Keith*, *Rubens*, *Hecla*, *Robin* (crimson, very fine), *Apollo*, *The Sultan* (very dark, almost dusky, crimson), *Lord Dalhousie* (very fine), *Vesuvius*, *Gertrude*, *Sir T. Moore*, *Mephistopheles* (not so dark as usually painted), *Pendita* (very dark crimson), &c., while among the lighter forms *Princess Xenio*, *Armored*, *Cupid*, *Marvel*, and *Snowflake*, the last the whitest of all, were all excellent. Then, apart from these, were many fine seedlings, some of great promise. Needless to say, the culture was excellent, as befits a group of plants from a collection well high unique. Silver-gilt Flora medal was awarded.

A very meritorious group of flowering shrubs came from Mr. John Russell, Richmond, in which *Azaleas* of the Mollis section formed a groundwork in many beautiful shades, the plants full of bloom and well grown. Other plants included *Laburnums*, *Malus floribunda*, *Lilacs* in variety, *Wistarias* (very beautiful), *Prunus triloba*, *Rhododendrons*, *Guelder Roses*, *Forsythia*, &c. In all a beautiful assembly of splendid plants. Silver-gilt Flora medal.

Messrs. Cannell and Sons, Swanley, had a pretty group of cut flowers of *Primula obconica* Rose Queen, the flowers large and generally uniform in colour. Silver Banksian medal.

The St. George's Nursery Company, Hanwell, set up a large array of their fine strain of *Cyclamen persicum*, some 200 fine plants in grand bloom being staged. Particularly good were the whites, the flowers finely shaped and well developed, a remark, indeed, that may be applied with equal force to all. A large batch, too, of the fringed-leaved strain were set up alongside the rest, the whole making a formidable display, in several distinct colours. Silver Flora medal was awarded.

From Highgate Messrs. William Cutbush and Sons brought a large group of *Hyacinths* in pots, of the fine strain of these flowers that we have seen hitherto from the same firm. The best kinds shown were *Yellow Hammer*, a charming yellow; *Jaynes*, pink; *Leviathan*, white; *Schotel*, blue; *Grand Maitre*, deep blue; *Le Grandesse*, white; *Anna*, white, very fine bell; *General Havelock*, blue; and *Innocence*, white. The same firm had huge baskets, 2 feet across, of *Hepaticas* in blue and pink, also a good pan of double blue. Silver Flora medal.

Sweet Violets were prettily shown by Mr. I. House, Westbury-on-Trym, Bristol. Such kinds as *La France*, *Princess of Wales*, *Luxonne*, *Lady Hume Campbell*, *White Czar*, *Sulphurea*, *Cannell's*, blue and white, being all shown to advantage, together with *Princess Sumonte*, white and lilac with blue lines. This is a very pleasing novelty and very fragrant. Bronze Banksian medal.

M. L. Linden (Brussels) sent a group of hybrid *Hemanthus*, displaying considerable variety in colour and form, a marked feature of all being the accompanying leafage. Some of the kinds are already noted and the remainder include *H. Diadenia*, rose salmon, and *H. mirabilis*, in its varying phases of light and deep salmon and pink, as also broad and narrow segments to the flowers individually. All the kinds have large umbels of bloom and are most attractive as they must also be most profuse in flowering. Silver Flora medal.

Mr. John Odell, Hillingdon, had a group of *Cyclamen* representing Carter's Perfection strain, the plants nicely flowered but not of large size.

Messrs. Peed and Son, West Norwood, had a group of *Azaleas*, *Lilacs*, *Guelder Roses*, and other forcing shrubs; and Messrs. Veitch and Sons a group of *Cineraria polyantha cruenta*, for which a silver Banksian medal was awarded. A light-coloured sport from *Violet Marie Louise* was sent by Mr. Roberts, Tan-y-bwlch.

A nice group of forced shrubs came from Mr. B. S. Williams, Upper Holloway; *Azaleas*, *Pyruses*, *Acers*, *Spirea confusa*, *Lilacs*, *Staphylea*, &c., being the chief items. Silver Banksian medal.

Messrs. Paul and Sons, the Old Nurseries, Cheshunt, had a few beautiful *Roses* in pots, most charming among them all being *Lady Battersea*, a lovely and fragrant *Rose* of a cherry carmine tone. Its exquisite form and colour brought crowds of admirers during the day. Blooms of *Catherine Mermet*, too, were superb, and around these were pans of choice *Saxifragas* and other alpine, as for example, *Sisyrinchium grandiflorum album*, &c.

Hardy plants, too, were very fine, one of the most important being a group from Messrs. Wallace and Co., Colchester, which included many beautiful things. *Fritillaria pudica*, *F. aurea*, *Anemone blanda*, *Puschkinia scilloides*, the lovely *Chionodoxas*, *Scilla sibirica alba*, *Narcissus Bulbocodium*, *Galanthus Whitalli*, *Iris persica*, and *I. stylosa speciosa* being among a numerous array of beautiful plants. It was not merely the plants in this group, but the delightful and intelligent get up generally that caught the eye at once and bade the visitor stay; indeed, the plants were very charming and refreshing, and shown in this way are equally valuable from an educational standpoint. A lovely lot of *Lachenalia Nelsonii* in a setting of purple-leaved *Acers* were also shown by the Messrs. Wallace, who obtained a silver Flora medal for their group.

Messrs. George Jackman and Sons, Woking, had a nice variety of hardy things, *Adonis amurensis*, several *Primulas*, and *Androsace carnea*, very pretty; *Tree Peonies*, *Polygala chamæbuxus*, blue *Primroses*, *Saxifragas* in variety, and a variety of forced *Daffodils*, Trumpet kinds in pots. Silver Banksian medal.

Messrs. T. S. Ware, Feltham, Middlesex, had a large exhibit of alpine and *Daffodils*, among the former such as *Saxifraga burseriana*, *S. oppositifolia*, in white and purple; *S. Boydii alba*, the pretty *Soldanella*, and *Shortia*, *Anemone vernalis*, with its silken flowers; pink, white, and blue *Hepaticas*, several *Primroses* of the acutis section, *Iris iberica*, a fine flower; a large bank of sweet *Violets* in pots of all the best kinds, and a choice assortment of *Daffodils*, such as *Empress*, *Sir Watkin*, *Michael Foster*, *Glory of Leyden*, *Queen of Spain*, *Stella maxima*, *bicolor Ada Brooke*, a refined flower; *C. J. Backhouse*, and others. There were many beautiful and interesting plants in this large and varied group. Silver Flora medal.

Messrs. Barr and Sons also had a good varied group of *Anemones*, *Chionodoxas*, *Galanthus*, *Irises*, *Crocus*, and other such things of early spring, while a larger array of the choicer *Daffodils* filled up much space; many of these had suffered considerably from packing, and the stems were too greatly reduced in length to display the variety to advantage. Such good sorts as *Gwyther maximus*, *Empress*, *C. J. Backhouse*, *Golden Spur*, *Duchess of Westminster*, *Henry Irving*, *Mrs. Langtry*, and others were in some quantity. Silver Flora medal was awarded.

From Mr. J. Silsbury, Clarendon Lodge, Isle of Wight, came the spathe of that remarkable aroid, *Godwinia gigas*, of which so fine an example recently came from Kew, the present example, being cut, failed to arouse quite the interest as the former specimen.

THE LECTURE

was on "Inconspicuous and Rarely Cultivated Orchids," which was by Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, the president. Prior to the reading of the lecture, no less than forty-two new Fellows were elected. The audience was not so large as usual, the subject perhaps being somewhat technical. Still, coming from such a source, it might have been expected that Orchidists would have been plentiful rather than being conspicuously absent, with but one or two exceptions. The audience enjoyed the advantage of listening to Sir Trevor Lawrence, Mr. White, who was present, suffering from a sore throat. A large basket of the small and curious species specially described added interest to the gathering. The President said that the entire credit of the paper was Mr. White's, who had composed it. Orchid culture had very widely extended of late years without doubt, but the general disposition was to grow chiefly the large-flowered and showy varieties, especially those which so plentifully furnished flowers for cutting. But there were many that to an Orchid lover were, if small and comparatively inconspicuous, yet exceedingly curious and beautiful. Orchids seemed to resemble human beings in so soon finding out and showing whether they were well cared for or not. Still, cultivation generally was easy, whilst the best of care was essential. Very many inconspicuous species or varieties had been introduced on clumps of the larger forms, and these were now getting attention and appreciation. Many of the showier forms had allied to them others that were possibly regarded as but botanical curiosities. If an Orchid lover makes a selection, he commonly omits *Stanhopes*, *Saccolabiums*, *Cirrihopetalums*, and others not showy, yet all these are of exceeding beauty in their respective characters. Collectors would greatly add to the scientific interest of their collections if they would include the smallest flowered forms, although those may not have much pecuniary or trade value. The genus *Cirrihopetalum* had many forms or species. So also had the *Saccolabiums*, although their flowers were comparatively inconspicuous, yet many were exceedingly beautiful. Of the former there were some fifty known species. Many of the flowers resembled Chinese faces and wagging chins. One form resembled the head of the Medusa, and was so named. In some the colouring was rich and fully blotched yellow, although the flowers were small. Some examples of the rarely cultivated forms were mentioned, such as *Cirrihopetalum compactum*, known as the "Windmill" Orchid. These interesting species were best grown in pans or baskets, using plenty of charcoal, peat, and sphagnum. General outlines of culture were described, these being also applicable to the genus *Bulbophyllum*. These latter came from a vast area of the tropical world, especially from the East Indies and Madagascar. *B. formosum* was of the deciduous

section, also *B. sanderiana*, and a few others specially worthy of cultivation. Many of these in their flowers showed material sensitiveness. One remarkable species was *Meglaclium Bufo*. Of this Dr. Ludley wrote the following remarkable description:—

"Let us imagine a green snake to be pressed flat like a dried flower, another to have a row of toads or such speckled reptiles drawn up along the middle in single file, their backs set up, their forelegs sprawling right and left, and their mouths well open with a large purple tongue wagging about convulsively, and a pretty considerable approach will be gained to an idea of this strange plant, which if Pythagoras had but known of would have rendered all arguments about the transmigration of souls superfluous." What wonder if many would like to see that remarkable variety. Terrestrial Orchids were noticed, and special reference made to many of them. In South Africa were many *Disas* that had not yet been sent home, because probably not regarded as worthy of cultivation; also *Erides*, *Calanthes*, *Saccolabiums*, and many others, of which it was hoped after the war was over that those species would find their way into Europe. Those would then in time materially help to enrich home collections. Mr. Hayman, German consul to the States of Colombia, had proved to be a valuable collector, and possessed a truly wonderful knowledge of Orchids. In some respects in Orchid culture all had advanced, in some few others we had somewhat retrograded. In conclusion, Sir Trevor showed a tiny plant, 3 inches in height, of *Pleurothallis*, with quite minute flowers. One magnified eight times, then painted in colours on board, showed really a very pretty crimson flower indeed. A cordial vote of thanks was given to Sir Trevor Lawrence and to Mr. White for his talented lecture.

NEW AND RARE PLANTS.

ODONTOGLOSSUM CRISPUM PURPURASCENS.

THE raceme of this variety bore ten flowers of most lovely colouring. The sepals and petals have a ground colour of bluish white, upon each of the sepals are masses of crimson-chocolate dots, while the petals are more sparingly marked. Exhibited by Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (Orchid grower, Mr. W. H. White). First-class certificate.

LÆLIA JONGHEANA KROMERI.

A BEAUTIFUL variety of *L. Jongheana*. The flower is of good size, and of a deep rosy purple colour throughout the petals, sepals, and upper portion of the lip. The edge of this is fringed, while the throat is of a clear orange-yellow, and has several longitudinal ridges very marked. Exhibited by M. Ed. Kromer, Boraima Nursery, Bandon Hill, Croydon. First-class certificate.

ODONTOGLOSSUM CRISPUM SUNSHINE.

THIS is a distinct and lovely variety of *O. crispum*. The petals and sepals are of a most delicate pale yellow, the colour deepening towards the margins. The column and the lip are blotched with chocolate-red. Exhibited by Messrs. F. Sander and Co., St. Albans. Award of merit.

RHODODENDRON GRANDE.

THOUGH by no means a novelty, this is one of the boldest and showiest of the Sikkim species, where the plant attains to 30 feet high or more. The huge trusses of white tubular flowers have a very majestic bearing that at once attracts attention. Some half-dozen of the giant heads were shown by Mr. F. D. Godman, South Lodge, Horsham (gardener, Mr. Moody). First-class certificate.

HÆMANTHUS FASCINATOR.

IT is one of the features of this hybrid that the foliage precedes the umbel of flowers, the latter being of great size and of reddish carmine, with a suspicion of orange in the red. Unlike some other hybrids which are green-leaved, this on the reverse side possesses a distinctly red rachis or midrib. From Messrs. Linden, Brussels. First-class certificate.

LACHENALIA PHYLLIS PAUL.

THIS is of a golden-amber colour, with very long, drooping flowers, and a reddish summit to the inflorescence. From Mr. F. Moore, Glasnevin. Award of merit.

LACHENALIA KATHLEEN PAUL.

THIS is also a golden flower in the main, but the base of the corolla is heavily laden with red. From Mr. Moore, Glasnevin. Award of merit.

HIPPEASTRUM CLOVELLY.

A VERY fine form, the colour white and rose veined with white and white central bars. From Captain Holford, Westonbirt. Award of merit.

HIPPEASTRUM LORD BORINGTON.

A SPLENDID dark crimson self from which all suspicion of the green base has been deleted. This is a grand flower. From Captain Holford, Westonbirt (gardener, Mr. Chapman). Award of merit.

* * All the above were exhibited at a meeting of the Royal Horticultural Society, at the Drill Hall, Westminster, on the 26th inst.

ANSWERS TO CORRESPONDENTS.

Wood ashes and pot plants (RECTOR).—Wood ashes when from hard wood contain a good percentage of potash and are excellent for hard-wooded plants in pots, such as *Camellias*, *Azaleas*, *Roses*, or others of similar character, in which hard wood forms an important element; but for soft-wooded plants, such as *Begonias*, *Petunias*, *Geraniums*, and others of quick growing nature nitrogenous manures are more desirable, as these quickly dissolve, whereas potash does so slowly, and is better suited for permanent plants. It is a valuable manure for fruit trees and Vines in or out of pots. For hard-wooded plants add a pint of the ashes to a gallon of soil, for soft-wooded plants half a pint, and use well-decayed stable or cow manure, with occasional waterings of liquid manure later. The wood ashes should so soon as made be placed in the dry, as if exposed to weather and rain the manurial properties of the ashes soon waste. You will find half a pint of fresh soot added to the gallon of soil most helpful. The leaf enclosed is of one of the small leaved *Trifoliums*, but which of these is the true Shamrock has never been definitely ascertained.

Planting Yews, &c. (H. D. R.). (1) September, after good rain, is the best time to plant Yews. (2) There is no best time to move old *Laurustinus*; they are not likely to recover from any removal unless they are in strong soil, and can be moved bodily with a large unbroken ball about 2½ feet cube. (3) All planting in such a border is likely to harm the Pear trees if it involves digging, but you might sow *Aquilegia*, *Mimulus*, and *Meconopsis cambrica* fairly near the trees. In front and in the spaces furthest from the fruit trees you could plant *Solomon's Seal*, *Japan Anemone*, *Lilies*, hardy Ferns, and the herbaceous *Spiræas*, and for smaller things *Primroses*, *Auriculas*, and *Pansies*. (4) A useful size of garden roller is 22 inches by 22 inches or 24 inches by 24 inches, costing about £3 3s. or £4 4s. respectively. The handiest kind has the edges rounded so that they do not cut into grass when turning, and are divided in the middle. We know nothing about cheap rollers, and should doubt their being worth buying. If the price is too much you might try of a second-hand one.

Pot drainage (S. T.).—Few things are more liable to cause failure in the culture of plants in pots than an absence of proper drainage. On the other hand, some persons employ drainage far too liberally, using up much room in the pot that might be filled with soil. Take care in the first place that your old pots are washed clean in hot soda water. Next see that your potting soil is of a good fibrous nature, having in it some well-decayed manure and sharp sand; that makes a good compost. Then in potting place over the hole in the bottom a piece of potsherd about the size of a penny piece, not necessary setting close down. On that put about three-quarters of an inch depth of small broken potsherd, and on that a few pieces of the turler portions of the soil to keep the fine soil from washing into the drainage. If you follow these directions you cannot do wrong. When plants in pots are stood outdoors they should be on some hard substance to prevent worms getting in to them through the drainage.

Pergola climbers (W. M. D.).—Where the supports of a pergola are of rustic wood resembling tree stems there is no incongruity in their appearance, even if imperfectly covered with climbers. But as a flagged pergola should constitute a dry and pleasing winter promenade it seems so much preferable that the supports, especially where of solid brickwork, should be covered with something dense, such as *Ivies*, *Cratægea Lelandi*, or other plants that wear a cheerful leafy aspect. Evergreen *Roses* do moderately well also, especially if strong climbers, as these can ramble over the broad roof in semi-wild form, whereas climbing *Roses* when severely trained seem very stiff and formal. Virginian climbers well clothe the supports in the summer, but are hardly beautiful in the winter, still we have few good evergreen hardy climbers. For summer purposes there is a profusion of good things in *Clematises*, *Honeysuckles*, *Wistarias*, *Cobæas*, *Eccremocarpus*, *Aristolochias*, *Passifloras*, *Chimonanthus*, &c., with some bright things of annual character.

Planting under trees (E. B. J.).—(1) It is always difficult to make a good job of planting under or among other trees, but we should advise a thorough preparation of the ground and a bold planting of English Yews, one of

the few shrubs or trees that do well in the shade of others. A few Guelder *Roses* might be planted with them; they are very hardy and long suffering. For the Yews holes 6 feet across and 2 feet deep should be made ready and manure worked in so that the roots will reach it when they have made a little growth. A mulch of manure is also advisable. Plant in September after the first good autumn rain, and make sure that the young trees do not suffer from drought, at any rate, until they are so well established that they can take care of themselves. (2) You will find all the most important garden shrubs described and many of them well illustrated in the latest edition of Robinson's "English Flower Garden" (John Murray).

Arum Lilies in a small pond (G. W.).—They do well if planted the end of May in from 18 inches to 2 feet of water in a sunny place; if the water is shallower they are likely to be damaged by frost.

Amaryllis Belladonna (A. W. Dorset).—The buds you send are the result of badly-matured or ripened growth last year, which had not the strength to throw out the blooms formed. If the growth is this year well finished there is no reason why bloom should not follow in due time, but much depends on soil and climate, as well as the conditions under which the bulbs are grown. Planting on the surface and banking up the bed or bank is an excellent plan and brings more bloom.

Planting Roses (MRS. J.).—You may plant *Roses* of all descriptions safely to the end of April if ordinary care be taken. If the plants be climbers you can obtain those in pots, but they will need to have the balls of soil well loosened and the roots laid out thinly in the process of planting. In ordering *Roses* that are lifted from the ground request that the roots be packed in damp Fern or straw before sending them off. If the roots are found to be moist and plump when they come to hand plant at once. If quite dry soak in a pond of water for an hour before planting. Take care to have the ground ready for planting in good time. Do not put fresh manure in immediate contact with the plants, but put some well down and also on the top after soil has been put about the roots. Avoid planting too deep. Such late planting necessitates in all cases hard cutting back of the plants, but the resultant growths stimulate strong root action, which is desirable.

QUESTION.

Harrison's Hardy Scarlet Melon.—What has become of Harrison's Hardy Scarlet Melon (see THE GARDEN, September 2, 1899)? If sent out, under what name and where can it be obtained?—F. A. KEBBEL.

GARDENING APPOINTMENTS.

MR. J. P. KENDALL, head gardener, late in charge of the Culver's Park and Gardens, Chesham, Surrey, has been appointed head gardener, with charge of plantations and roads, to the Right Honourable Lord Amhurst, of Hackney, Diddington Hall, Brandon, Norfolk.

MR. JAMES SMITH, head gardener for the past three years to Colonel J. H. Wilkinson, at Elmhurst Hall, Lichfield, has been appointed head gardener to the same gentleman at Ashfurlong Hall, Sutton Coldfield, Warwickshire.

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THE GARDEN.

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[APRIL 6, 1901.

IS IT WORTH WHILE ?

WE see, with a feeling of doubt as to its need or wisdom, the announcement of the formation of a National Sweet Pea Society. Are we to expect also a National Mignonette Society, a National Marigold Society, a National Mimulus Society, a National Sweet Sultan Society, and so on through all the throng of capital annuals that are necessary to our gardens ?

There are already only too many beautiful varieties of Sweet Pea ; there is, moreover, a simplicity in the nature of the plant, a frankness of general character, an absence of suggestion in the way of possible much further development *on good lines*, that seems to put the plant out of the rank of those that can give enough in return to warrant the creation and endowment of a whole special organisation. Already nearly all that is to be done for the Sweet Pea has been accomplished by Mr. Eckford and others, to whom all who love their gardens must gladly render grateful acknowledgment. One scarcely sees what more there is to do. The increase of dimensions that we now have has brought these lovely flowers up to the limit of size that is desirable. No one could wish to see a Sweet Pea 3 inches across on a stalk 1 yard long. Lovely colourings also, thanks to Mr. Eckford, are already in plenty, and within a few years, when a yellow flower of good colour and form has been acquired, there would seem nothing more to do ; this Mr. Eckford, or some follower working on varieties that he has originally raised, will probably do without a National Society. The only thing now wanted is to weed out from the much too long list of varieties many of those that are less good in shape and colour, and to let no flower stand in the first class that has the upper petals folded over, or otherwise than well shaped and well displayed. This is a quality of the very first importance in a Sweet Pea, and some of us who have recently bought much-vaunted novelties (which shall be nameless) at high prices have been grievously disappointed to find when they bloomed flowers with pointed tops and curled-over petals.

Another thing is against the Sweet Pea as a subject for a National Society. A National Society means not only members and officers and subscribers and meetings, but it also means flowers on a show-board. And the delicious Sweet Pea dislikes being brought a journey in the hottest days of summer to be put in a glass

on a show-table. It is a bad traveller. The large show of Sweet Peas that was brought together last year was not in good condition on the board. All who cut Sweet Peas for house decoration know that they never look well the day they are put in water. The next day they will have recovered, especially if they are cut with the whole spray. Another thing that makes them bad show flowers is that their clear, tender, and extremely varied colouring wants to be displayed on a very carefully prepared ground. No positive colour can come near them without disaster ; indeed, to show them well they should be divided into two colour sections and shown on two grounds—the warm whites, pinks, yellows, rosy and red colours on a cool grey ground, and the cold whites, blues, and lilacs on a warm ground, that may be described as of a colour somewhere between cream and khaki much diluted.

No words can be too strong in condemnation of the dwarf races, that are only a debasement of beautiful and graceful form. A Sweet Pea is a climbing plant, and it has climbed into and twined round our hearts, and we do not want to see its character debased and destroyed by any new shape that is quite foreign to its nature. There will never be a wholesome demand for these wretched dwarfs. We earnestly hope that seed merchants will see the wisdom of offering for sale restricted collections of what are determined to be the best of the kinds. If this were done, and the kinds were always clearly described as to colour and general habit, not merely by a name — such as “Mrs. Gladstone” — only, amateurs would buy with much more confidence. We know, as a fact, that they complain of the long lists, and we have also heard complaints on the score of a flower of bad shape much vaunted as a “novelty surpassing everything hitherto produced,” only because it was a shade larger.

In the matter of judging the merits of cut blooms there is nothing that could not be done at a couple of the meetings of the Royal Horticultural Society. There is, of course, no reason why a number of ladies and gentlemen should not constitute themselves into a club to discuss the merits of the Sweet Pea, or anything else ; but when there is already a highly experienced body whose working organisation could deal with the subject with hardly perceptible extra effort, and when so much of more practical work in horticulture cries aloud to be done we ask ourselves—Is it worth while ?

COLD STORAGE FOR FRUIT.

HAVING read in THE GARDEN for March 16 the article on “Cold Storage for Fruit,” and seeing that you invite growers who have had experience on the subject to say what their experience has been, I may say that for more than twelve years we have been using as a store room for Apples, Pears, &c., a room—or, as some would call it, a cellar—which is entirely below the surface of the ground ; it is 8 feet deep, with sides and arched roof of stone. During winter the temperature is 40°, and during the warmest days of summer about 50°. We find this place all that one could wish for this purpose. I was induced to try it for storing through having often found amongst growing vegetables, &c., Apples and Pears which had fallen from the trees, and were sound and fit for use, when the same varieties which had been carefully gathered and stored in an ordinary above ground fruit room had been disposed of, because of their season, when stored in this manner, being over. Seeing that these fallen and, to a certain extent, bruised fruit kept better where it was wet and cold than the sound ones did where it was dry and somewhat warmer, I began to think that there was something radically wrong in our method of storing, and fortunately having this underground place at my disposal I determined to give it a trial, and am glad that I did so. Since we began to use it we have, for five years in succession, had cooking Apples all the year round without a break. Keswick Codlin and Lord Suffield are fit for use until the end of November, Nelson's and Pott's Seedling to the end of January, and a few varieties whose names I am not quite certain of keep up the supply until the beginning of April, when we usually begin to use Wellingtons, which are often good to the end of May ; then Warner's Seedling is used until the new Keswick is ready. The latest dessert Apple we have is Ribston Pippin, which is good well into April. As you will see, a very few sorts of cooking Apples keep up a continual supply. Last season our crop of late Apples was a very light one, consequently we have not enough of each sort to be able to keep them as long as we often have done.

With regard to Warner's Seedling, it is the best Apple for keeping that I have seen. I am sending you some which were gathered from the tree in October, 1899. Had your article appeared two or three weeks earlier we should have sent you some which were not so much shrivelled. Owing to a light crop, we have been using the best of those which were left over from last year. We are also sending some of last year's gathering to compare with them, and some Wellingtons and Ribstons.

G. FIRTH.

The Gardens, Woodlands, Mirfield.

[Mr. Firth sends many fruits of good quality, and well preserved. Ribston Pippin still preserved much of its good quality, and Warner's Seedling and Wellington were both satisfactory.

We have received many communications about this important question, but through the Easter holidays upsetting the usual routine we are compelled to leave over the remainder until next week.—EDS.]

NOTES OF THE WEEK.

Pinks.—The value of Pinks as an edging for hardy plant borders was recently advocated, and a charming illustration showed their effectiveness in such positions. I should like to add to the note that two of the best for the purpose are the old pheasant-eyed and Albino, the latter a comparatively new and very lovely flower. It is non-splitting, very pure colour, and with smooth-edged petals. An extremely effective bed may be made by associating this with clumps of the double *Geum coccineum*. In the case of long borders where an edging is considered necessary, I should not advocate confining the same to one particular flower, but rather split it into sections, with foliage that would hold good throughout the year, but representing different flowering periods, the blue *Gentian*, *Veronica incana*, *Saxifraga umbrosa*, several of the *Sedums*, and the old double white *Chamomile* are a few examples of useful front edge plants.—E. BURRELL.

Cyclamen libanoticum.—This fine Cyclamen, so well figured in THE GARDEN of March 23, is so bold and effective in its way that one may be pardoned for referring to it again, even after the valued note by Mr. Irving which accompanied the drawing. I desire to advise those who secure it to plant it not only in a shaded position, as recommended by Mr. Irving, but also in one perfectly sheltered from wind in winter. The large leaves get twisted and blown about in high winds, with the result that they are occasionally broken off, to the detriment, not only of the appearance, but also of the future well-being of this truly handsome hardy Sowbread. *C. libanoticum* is well worth a place in any garden.—S. A.

Leucojum vernum, Miss Hope's variety.—Those of us who admire the Spring Snowflake are glad to be able to prolong our season of pleasure as long as possible. To others of similar tastes I would recommend, with this view of lengthening their Snowflake season, the pretty little form called "*L. carpatium*, Miss Hope's variety." As the name "*carpatium*" is rather confused in its application, I am disposed to drop its use and to name this Snowflake simply "*L. vernum*, Miss Hope's variety." While all my other spring Snowflakes are either altogether past or are getting shabby, this little form is hardly at its best. It has smaller flowers than any other spring *Leucojum* with which I am acquainted, and has dark green markings, which contrast prettily with the pure white ground colour. The leaves are narrower than the other forms and of a deeper green. So far as I know, this Snowflake is not yet in the bulb trade, and I know nothing of its history, save that it came to me from a friend, who got it from that once well-known garden which belonged to one who did so much in her day to promote the love for hardy flowers. One likes to have some flower associated with the name of Miss Hope.—S. ARNOTT.

Soldanella alpina.—It is not given to everyone of us to see *Soldanella alpina* among its native snows, or to see it piercing through its envelopment, as has been described to us in some such words as the following, which appeared in *Science Gossip* in December, 1895: "I know of no prettier sight than the purple bells of *Soldanella alpina* standing in the centre of the little hole which the stem has made for itself in the snow. The heat that it gives out in transpiration is enough to melt these little holes in the already half-melted snow above it, and through which the flower stalk then emerges, bearing one, two, or three fringed bells, developing still out of the nutriment stored up in the last year's leathery leaves. The flowers are over in a few days, almost before the snow is gone." If we cannot at that time venture to see it in its alpine home, we can at

least hope to enjoy it in our gardens, even if it should not have the added charm given by the surrounding snow. It is at present very beautiful in my garden, where I have now grown this alpine Moonwort for a good many years. Its beautifully-fringed bells are most pleasing, and cause those who have not seen it before to express their admiration of its dainty beauty. It is, unfortunately, pretty well known that *Soldanella alpina* is not a free bloomer in our rock gardens. There is, however, in connection with its flowering a secret, which is very simple in its way, but is also worth knowing—that is, that in gardens where it does not bloom well it should have a piece of glass supported overhead from the beginning of October until it comes into flower. I do not lay claim to the discovery of this treatment, as I read it some years ago in an old horticultural periodical, and found it worth practising. As a proof of its efficacy one may mention that *Soldanella alpina* has only flowered with me after winters in which it was thus protected, but has never bloomed when, through forgetfulness or other cause, it was neglected. I grow it here in a low position in peat, leaf-mould, and sand.—S. ARNOTT, *Carsethorn, by Dumfries*.

Synthyris reniformis.—This charming little plant, which is closely allied to the *Wulfenia*, is now pushing up its racemes of pretty blue flowers in abundance. It is almost an evergreen, its reniform coriaceous leaves being persistent during the winter in sheltered positions. Planted in nearly all sand, in a rather damp, half-shaded position, it will form one of the gems of the spring garden. The flowers are borne on leafy scapes, which develop to a length of from 6 inches to 9 inches. It is a native of the Western States of North America, being found in the mountains near the Grand Rapids of the Columbia River and other places from Oregon to Northern California. Another species in cultivation which I have not seen in flower is *S. pinnatifida*, a very distinct plant with decomposed leaves, short woolly scape, and congested heads of whitish flowers, from the Rocky Mountains.—W. IRVING.

Saxifraga Salomoni.—This very distinct hybrid, between *S. burseriana* and *S. rocheliana*, is now in full flower in the open. It is of compact habit and free growth, with tufted foliage nearer to the former parent. The flowers are more like those of *S. rocheliana*, and are borne three or four together on pubescent stems about 2 inches in length. The whole of the stem and buds are suffused with pink, which shows off well against the glaucous foliage. It is a distinct acquisition, and so far does not show any tendency to decay, such as *S. burseriana*. The hybrid was raised and sent out by Herr Sundermann, Lindau, Bavaria.—W. IRVING.

Flowering of Iris Danfordiæ.—"Has anyone persuaded the pretty little *Iris Danfordiæ* to flower a second time, I wonder?" asked Mr. E. H. Woodall in THE GARDEN, page 103. The question has not met with an answer, so possibly I ought to deem myself fortunate in having brought it safely through a third season in North Notts. Two flowers, it is true, do not go far towards enlivening a spring garden, especially as the sparrows promptly picked them to bits; but the fact remains that the bulbs are still growing and have made many offsets, which I hope will have reached the flowering stage by next year. Except for an inclination to form numerous bulbils instead of devoting its energy to bulbs of flowering size, I have not found *I. Danfordiæ* less thrifty than *I. bakeriana* and *I. histrioides* obtained at the same time, and growing beside it. On the other hand, I cannot keep *I. histrio*, it comes up too early to thrive without protection. A patch of from 150 to 200 *I. reticulata* (the produce of some score or so of seeds) growing hard by has been very bright, and taken the winds of March with as much composure as Daffodils. Whether the type or major I cannot say. I am told that major is no better. The correspondence on this subject of size has become somewhat amusing. The fact that a large flowering variety exists is not denied, only it must not be called major. It reminds me of *Punch's* Colwell Hatchney correspondent, who, after a careful study of Cryptograms, came to the conclu-

sion that the works of the immortal Bard were not written by Shakespeare, but "by somebody else of the same name!" In conclusion, I should advise Mr. Woodall (who I hope may recollect me) to try again. Has he started with sound bulbs and planted early, or was the soil of Scarborough too heavy?—JAMES SNOW WHALL, *Workshop*.

Rhododendron Shilsoni.—The mild climate of the south-west counties of England and Wales enables horticulturists to employ a large number of plants for outdoor effect that cultivators further north are forced to grow under glass. Of these plants the Himalayan *Rhododendrons* are worthy of first place, and in many gardens a speciality is made of them. The garden of Mr. H. Shilson is considered to be one of the richest in species and hybrids, and the subject of this note, which has been named after its raiser, is one of the gems of the collection. It was raised through the crossing of *R. barbatum* and *Thomsoni*, and in some respects is intermediate between the two, though an improvement on both. It makes a very large bush 10 feet or 12 feet or more high with leaves very similar in colour and size to those of *Thomsoni*, but slightly longer and not so blunt. The inflorescence has taken the form of the compact truss of *barbatum*, with the thick fleshy texture and some of the size of *Thomsoni* flowers. The colour is a deep rich blood red, very like that of the last-named parent. In the fine collection exhibited at the Drill Hall a year ago from the garden of Mr. H. Shilson, the subject of this note was represented by a number of handsome trusses, which caused more attention than any of the other fifty or so species and varieties shown. At Kew a plant 12 feet high may be seen in flower in the Himalayan house.—W. DALLIMORE.

Brunfelsia calycina.—The advantages gained by growing tender plants in borders instead of pots under glass are well illustrated in the case of this plant, though when cultivated in pots it flowers very freely, it rarely makes a good shapely plant, the growth being stunted and leaves scarce. Under the more generous treatment of border culture growth is much more active, and by a little attention to tying, shapely, leafy bushes are quickly made. At the same time flowers are produced, if anything, more abundantly than when growing in pots. At Kew several plants about 1 foot high were planted in a border in the Mexican house four years ago, where they have now attained a height of 3 feet and with a similar diameter. At present they are smothered with pretty purple flowers 2 inches across. The plant, though a very old introduction, having been sent from Brazil upwards of fifty years ago, is rarely seen in cultivation on account of its habit, often being discarded for others inferior in flowering qualities but more free growing. If those people who have given it a trial under pot culture and have failed would try planting it in a well-drained border of peat and loam in an intermediate temperature they would be almost certain of obtaining good results. If a large number of these so-called bad doing plants were but planted out astonishing results might be confidently expected in a very short time.—W. DALLIMORE.

Muscari Heldreichi.—This pretty Grape Hyacinth is the earliest of the true *Muscari* to bloom here, although only a few days elapse between its coming into full flower and the blossoming of others of this pretty genus. Other kinds are sometimes offered under this name, but it is so distinct that it is difficult to understand how any one can make a mistake about it. The broad white margin round the mouth of the flowers would distinguish it fairly well from others, apart from the precise shade of blue and its general appearance, which, after all, serves better to distinguish some plants than can be readily done by any written description, however careful or minute. To see it in full beauty it ought to have a rather heavy soil. It grows freely enough in light soil, though in this it gives smaller and less effective spikes and flowers. Like others of the genus, as a rule, it increases rapidly, and soon becomes quite plentiful enough, although the finer white forms of *M. botryoides* do not increase so rapidly as one would like to see.—W.

Chrysanthemum Mrs. J. C. Neville.—It has been the custom for some time past to associate Japanese Chrysanthemums of large size with coarseness, and this opinion has often been quite justified. In the case under notice the flowers are most probably some of the largest in cultivation, yet without the coarseness which is usually attributed to blooms of phenomenal dimensions. It is no exaggeration to say that flowers measuring from 10 inches to 12 inches in diameter were frequently in evidence last season, and they were always greatly admired. The florets are very long, of great breadth, and remarkable substance. They also curl and twist pleasingly, and are notched at the ends, the flowers are of the purest white, with the faintest tinge of green in the centre. That there is a great future before this variety there is little reason to doubt, and next season's displays will be enhanced by its inclusion in grower's selections.—D. B. CRANE.

Salvia patens.—I do not think that this blue Sage is grown so extensively as it should be. Either associated with other plants or when grown in clumps it always demands attention. In the latter case, if the clumps are planted at intervals of a few yards in a mixed border the effect is very striking. It also makes a good back row plant in a narrow border, and the effect is greatly enhanced if fronted along with a row of scarlet Pelargoniums. It is propagated easily from seed or cuttings, but I think the latter method is most satisfactory providing cuttings are available. If seed propagation is resorted to it may be treated as an annual. After flowering the tuberous roots should be lifted and placed in a cold frame and covered with light soil, where they should remain undisturbed until the spring. At this time plenty of young growths will be found. When large enough they should be planted thickly in 6-inch pots and placed in the propagating pit. As soon as they are rooted they may be potted into 3-inch pots and grown in a warm house. When about 6 inches high, stop them to encourage side growths, and after this stage their treatment will be identical with that of other bedding subjects.—E. HARRISS.

Libonia floribunda.—As a spring-flowering plant for the greenhouse or conservatory the Libonia commends itself to the most casual observer. It has been giving us its pretty tubular scarlet and yellow flowers for the past two months, and is now a subject not to be despised. This is a plant which commends itself especially to the amateur, as its requirements are so easily understood. When flowering is over it will commence to make new growths, which should be taken off and inserted thickly in pots, and placed in a warm, moist house, and shaded from bright sun. They will soon be found to have rooted, and should be then potted into 2½-inch pots. When about 4 inches high, pinch the shoots to induce a bushy habit. Their next and final shift should be into 5-inch pots. They will then require to be gradually hardened off, and eventually placed outdoors to receive the direct rays of the sun, as it is essential that the wood be thoroughly ripe before the flowering season arrives. Old plants cut back and repotted will make larger and more showy plants.—E. HARRISS.

Apple Lamb Abbey Pearmain.—At the meeting of the Royal Horticultural Society on March 12, an award of merit was made to this dessert Apple, and the record shows there were sixteen votes for and seven against the award. It is reassuring to know there are seven competent men on the fruit committee with the courage to vote against an Apple of very doubtful value for general cultivation. Mr. George Bunyard, the chairman of the fruit committee of the Royal Horticultural Society, does not even name it in his catalogue, and he can always be relied upon to catalogue an Apple it is desirable should be cultivated. We have it on the authority of one of the leading fruit cultivators in the Midland districts that "most nurserymen threw this Apple out of their collections thirty or forty years ago; it is a bad grower, a poor cropper, and very small." This at once accounts for its absence from Mr. Bunyard's catalogue. Hogg, in his "Fruit Manual," and Scott, in his "Orchardist," both write of it as a

healthy tree, a free grower, and a good bearer, but it may be assumed their knowledge of the variety was only second-hand, and taken on trust. Here is an Apple raised in 1804 from a pip of an imported Newtown Pippin actually receiving an award after it had been in cultivation nearly a century. Honour to the dissentient seven!—E. W.

Painted Lady Runner Bean.—This is one of the varieties of the Scarlet Runner Bean, and it is said by those in the seed trade qualified to speak that it is "running out," to use a phrase common in seed establishments; it means that the type is deteriorating or running back to an inferior form. It is one of several forms of the Scarlet Runner, and its blossoms, half red and half white, are very pretty, and contrast well with the red flowers of the common Scarlet Runner. A row of either, and especially the Painted Lady, is a very pretty floral picture in a cottage garden, and the plant is also valuable as providing a wholesome and much appreciated adjunct to the dinner table. Messrs. Cooper, Taber and Co., seedsmen, of Southwark Street, have selected what they term their Revenhall Giant Painted Lady, and they claim for it that it is of a more robust growth and more prolific, at the same time producing larger pods, while it is quite as early. It is curious to note that the seeds in common with the flowers change; in a dry state they are of a lighter ground, and the markings on the Beans lighter in tint.—R. D.

Zonal Pelargonium King Edward.—When I was at Swanley a few days ago Mr. Cannell pointed out a dwarf growing zonal Pelargonium named King Edward, which sported from the strong growing Henry Jacoby. The colour of the flowers follows the last-named, but the habit is that of West Brighton Gem. The curious thing about it is the coloured stem. This was a characteristic of Golden Cerise Unique, which was one of the parents of Mrs. Pollock, the first Golden tricolor, and it is thought by some growers that the inherent weakness illustrated in the multi-coloured stems was transferred to the leafage. The mystery is where did the colouration in the stems of a sport from Henry Jacoby, in which there are no signs of weakness, originate?—H. J. W.

THE FRUIT GARDEN.

THE RASPBERRY.

THE Raspberry grows wild in moist and shady places in many parts of England. Its home life reveals its requirements as to soil and situation. It succeeds best in a deep and moist soil. In poor shallow soil its surface roots suffer from insufficient moisture and nourishment. If the ground upon which it is intended to cultivate Raspberries is light and rather poor, improve it by digging in decayed leaves or other refuse from the vegetable garden, and also manure if available. A good mulch early in spring for a short distance around the canes is of great benefit. The numerous fibrous surface roots are kept cool and protected from the drying effects of the hot sun, while they are benefited by the mulch.

Planting.—The best time for this is when the leaves are falling in autumn, namely, in the month of October. Raspberries are usually trained to horizontal wires fixed between upright poles. These espaliers (for such are formed by the poles and wires) should be 5 feet apart, and each plant about 2 feet from its neighbour. If autumn planting is impossible postpone the work until the month of March. This is preferable to planting in midwinter, when the soil is cold and wet, although such good progress cannot be expected from spring-planted canes as from those put in during October. The latter have an opportunity of becoming established before winter, and are then ready to start well in spring. Raspberry canes may also be trained to single stakes, placed in rows 5 feet apart, with a distance of 3 feet between each stake in the row.

The shoots, or "canes" as they are generally called, of the Raspberry are produced every year either from a perennial (*i.e.*, living for several years) root-stock, or from the roots. In the latter case they are termed suckers. It is not advisable to keep the root-stocks of Raspberries more than six or eight years; but replant with younger canes, as from these finer fruit is obtained in greater abundance. The canes that develop one season produce fruit the next; thus while the canes of the past year are bearing fruits, others are developing to provide the following summer's crop. It will thus be apparent that the cultivator should endeavour to produce as many firm healthy canes every year as can be comfortably found room for. When the fruit is gathered the canes upon which it was borne should be removed, for they are of no further value. Cut them off at their base and draw them downwards to avoid injuring the remaining ones. If the Raspberries are grown against stakes not more than six or eight new canes must be allowed to remain annually. When trained against horizontal wires leave a space of several inches between each cane. Those shoots not required for fruiting the following year should be removed early in the season, soon after they make their appearance. The whole vigour of the plant may then be concentrated in developing only the necessary growths.

Summer Treatment.—This consists in destroying weeds by means of hoeing the ground, covering the surface of the latter with manure, and allowing no more than the necessary number of canes to remain. When the fruits are swelling, if the weather is at all dry, a good watering will prove helpful. As above mentioned, after the fruits are gathered cut away the old canes so that the younger wood may not be interfered with. In the autumn shorten back the strongest canes of those that are to bear next year's crop of fruit to about 5 feet, less vigorous ones to, say, 4 feet, and the remainder to about 3 feet. Such a method prevents overcrowding.

Propagation.—The most convenient method of increasing the Raspberry is by means of suckers, which, as already mentioned, are produced from the roots. The strongest of these should be carefully detached and planted in good soil in the autumn, and eventually trained either to stakes or wires. When planting cut down the shoot to within 10 inches or 12 inches of the soil. This will bring about the production of stronger canes the following year than would be the case if the primary shoot were left unpruned. Offsets from the root-stock may also be used for propagating. These must be carefully removed from the established plants so as to disturb them as little as possible. Root suckers are often produced at some distance away from the parent plant, and so can be detached without fear of injuring the latter.

Autumn-fruiting Raspberries.—Raspberry bushes may also be had in fruit in the autumn. The plants, however, require different treatment to the summer-fruiting kinds. The fruit is borne upon the current year's growth and not upon canes made during the previous year. The proper way is to cut down the canes in the month of February to within a few inches of the ground, and shoots will then push from them vigorously. These must have a liberal amount of sun and air so as to become well developed before the end of summer. The canes should therefore not be quite so close together as the summer-fruiting ones. Water liberally if the weather is dry, and also give manure water to assist fruit development. The following varieties are suitable for autumn fruiting: Belle de Fontenay, large, red; Noire d'Antonne, large, very dark; October Red, bright red; October Yellow, medium sized, yellow.

Summer-fruiting Raspberries.—Superlative, large red, producing heavy crops of fruit; Hornet, a fine large red variety; Baumforth's Seedling, an excellent variety, red. T.

A SMALL ORCHARD.

THE usefulness of a small orchard when judiciously planted and well managed can scarcely be over-estimated, and every country house should possess



MAGNOLIA CONSPICUA SOULANGEANA AT KEW.

one. To those who have families a small orchard is indeed a boon, and if planted with early, mid-season, and late varieties of Apples and Pears the happy owner is enabled to supply his children with delicious Apple puddings and pies for eight months in the year. Moreover, in plentiful seasons there are always more Apples, Pears, and Plums than can be used at home, and these if carefully picked and packed can be profitably disposed of at the nearest town. Then a small orchard can be tilled with the spade at small cost, and vegetables and choice small fruits, such as Strawberries, Gooseberries, and Black Currants, may be grown between the rows of fruit trees for several years, and thus the usefulness of the orchard is increased. In small gardens even space can generally be found for a small orchard, whereas a large one is quite out of the question. Of course its utility will largely depend upon the varieties of fruits grown in it and the kind of stocks they are worked on. Apple trees should be in bush form and be grafted on the Paradise stock, and Pears on the Quince, as then they commence bearing fruit the first year after planting, which is a great advantage. When Apples are grafted on the Crab many years often elapse before they commence to fruit. It is also necessary, in order to realise the full usefulness of a small orchard, that only a small number of early Apples be planted, as these will not keep long. A fair number of mid-season sorts may be allowed, but at least one-half the number of Apple trees should consist of late-keeping sorts, as they are the most useful in every way. Of Pears a fair number of trees of Swan's Egg, Louise Bonne of Jersey, and Doyenné du Comice may be planted; but stewing Pears are the most useful, and they will keep until May. Few fruit preparations are more delicious than a dish of Catillac, Vicar of Winkfield, or Suffolk Orange, and children enjoy the wholesome meal. The best way to stew them is to peel and put them into an earthen jar in a syrup, seal the jar, and place them in a steady oven until soft and brown.

As already stated, small fruits and small vegetables may be grown between the fruit trees for several years, and what is more useful in the household than Strawberries, Gooseberries, and Currants, or a good supply of wholesome vegetables. The

best trees to plant round an orchard for shelter are Damsons, Bullaces, and Nuts. Plant a Filbert or Cobnut between every Damson and Bullace, and in two years there will be a perfect hedge. Bullaces and Damsons being very hardy invariably bear good crops of fruit, and they make delicious puddings and pies; and Wine Nuts are quite as useful, too.

J. C. N.

TREES AND SHRUBS.

MAGNOLIA CONSPICUA — ITS VARIETIES AND HYBRIDS.

MAGNOLIA CONSPICUA, known popularly as the Yulan and the Lily Tree, is a beautiful flowering tree of spring, its brown branches and shoots supporting big waxy white goblets, opening out wide in the sunshine, and remaining pure and fresh for many days when frosts keep away. A nipping frost browns the segments, and for this reason, although the tree is perfectly hardy, shelter is desirable from cold winds. Grouped on the woodland edge or in some sheltered corner, its flowers are more effective, and they are so beautiful that one likes to cut them for the house, to fill big bowls, or to use Water Lily fashion in water in table decorations. Many noble specimens of this Magnolia exist in English gardens, and of considerable height, some 20 feet; and even without its flowers it possesses some beauty, from the fresh green colouring of the obovate leaves. *M. conspicua* was introduced from China in 1799, and will succeed in ordinary soils. A group is enjoyable, such an one as shown in the illustration.

The Magnolia illustrated is *Soulangeana*, a hybrid which occurred quite by accident at Fromont, near Paris, in the garden of Chevalier Soulange-Bodin, after whom it is named. Its parentage is *M. conspicua* and *M. obovata*, and is evident in the offspring, which has the

characteristic growth of the first-named, with the colouring of the two combined, the pearly white of the segments being dashed with purple on the outside. Although we miss the delightful snowy beauty of the Yulan, *Soulangeana* is welcome for its distinct colouring and the important fact that it blooms later, when frosts are less prevalent. *M. s. nigra* has very dark flowers.

M. Lenné is another hybrid of great beauty, and it is interesting to know that it can claim about the same parentage as the kind illustrated, but in place of the species *M. obovata* discolor was instrumental in its production. This is one of the most handsome of all early-flowering Magnolias, with large purple flowers, richer in colour on the outside of the florets than inside, and first appearing in late spring. Other hybrids have appeared, such as *Alexandriana*, *specabilis*, but those more fully described are the best.

M. obovata is a distinct Japanese species, more shrubby than *M. soulangeana* and its hybrids and not more

than 10 feet in height; but it is a pleasing Magnolia, blooming in early summer, when its flowers are appreciated; they are pure white, save for a staining of purple on the outside of the segments, and not so large as those of *M. conspicua*. There is a variety of this named *discolor* or *purpurea*, of which the flowers are almost entirely purple, and their dark colouring is very unusual. V.

PODOCARPUS ALPINA.

THIS little coniferous shrub is of especial interest as being the only member of the Natural Order coming from Tasmania that is hardy in the average climate of Britain. Some of the *Phyllocladus*, also Tasmanian, may be grown out of doors in Cornwall, but they are far from being as hardy as this *Podocarpus*, which stood without injury the frosts of February, 1895, when the mercury fell nearly to zero. It is a dwarf semi-prostrate evergreen, not growing more than about 2 feet high, but spreading twice or thrice as much in diameter. It has narrow leaves less than half an inch long, of a very dark green above, and marked beneath with two glaucous lines. They are crowded very closely on the slender branches, which gives the whole plant a dense leafy character, and makes it one of the most distinct evergreens of its class. The plant has, when bruised, a half resinous, half aromatic odour. It may be used for clothing banks, or, in common with other dwarf evergreens, for planting on rockeries to relieve their winter bareness. As its name implies, it is a mountainous plant, therefore not out of place among alpine. It is found at altitudes of 3,500 feet to 4,000 feet in Tasmania.

PRUMNOPITYS ELEGANS.

To those in search of dwarf, rather slow-growing evergreens, this Chilean conifer may be worth noticing. It is nearly related to the Yews, but is of slighter, more graceful growth. The leaf is under 1 inch in length, less than one-eighth of an inch wide, and Yew-like, being very dark green above and with two comparatively broad blue-white lines beneath. The plant has in this country

hitherto remained a shrub, of rather close habit in the main, but rendered graceful by the younger branches and shoots standing away from the older portions. Messrs. Veitch (whose collector, Pearse, introduced it in 1860) state that it attains a height of 40 feet to 50 feet on its native mountains. In the report on the conifer conference the largest specimen whose measurements are recorded is in Lord Ducie's garden at Tortworth, and was, ten years ago, 17 feet high. At Kew, in a fairly sheltered spot, it has proved to be perfectly hardy, and specimens there of neat pyramidal habit are about 10 feet high. It would be worth growing on lawns or in places where shrubs of somewhat formal outline, such as the Irish Yew, are desired. It stands pruning well, and by maintaining a leading shoot soon acquires a pyramidal form. The fruit I have not seen, but it is described as resembling, in form and size, a white Grape, but consists of a hard stone surrounded by soft edible pulp. It can be increased by means of cuttings.

ULMUS ALATA (WINGED ELM).

DURING the winter season few deciduous trees are more striking than this American species of Elm, which is known in the United States as the "Whahoo." Its younger branches are furnished with curious, ridge-like excrescences of corky bark, which give to the tree a peculiarly distinct aspect even at a considerable distance, and which, of course, is most noticeable whilst the tree is in its leafless state, as at the present season. This remarkable formation of the bark is characteristic of other Elms. The younger branches of our native Elm often show it to a certain degree; it is, however, more noticeable in the variety *suberosa*—known as the "Cork-barked Elm." But even in that variety the peculiarity is by no means so developed as in this American species. It is a tree of medium size, its branches having a strong tendency to take a horizontal rather than an upward direction of growth; but this adds to its picturesqueness. It occurs in the south-eastern United States, and was introduced in 1820.

W. J. BEAN.

The Arboretum, Royal Gardens, Kew.

DRACONTIUM GIGAS.*

A WONDERFUL plant, handsome in foliage, with large, lurid, grotesque, odoriferous flowers, but still lacking the attributes of a good plant for the garden, and therefore finding no favour except in botanical collections. "I leave such plants to Kew," was the remark of the president of the Royal Horticultural Society on seeing an example of it at a recent meeting. And yet there is much that is beautiful in this plant. It resembles in many ways an *Amorphophallus*, having a tuber 8 inches in diameter and 6 lb. in weight, from which springs annually a single leaf, the erect stalk of which is 8 feet high, "with a metallic lustre and mottled surface resembling a snake standing erect." This supports a blade, which spreads umbrella-like equally in all directions, 4 feet across, and is divided into numerous pinnatifid segments. The leaf lasts about nine months and then fades, and if the tuber is strong enough it is immediately succeeded by the inflorescence. The stalk of this is marked like the leaf-stalk and is 1 foot long. The spathe is nearly 2 feet long by 5 inches in diameter, almost leather-like in texture, wrinkled and deep claret-purple colour, yellowish about the base. Inside is the spadix, 4 inches long and covered with flowers. The spathe of the plant figured attained full size three weeks ago, and it is still perfect. Those people who object to peculiar, penetrating odours may not like that emitted by this plant whilst the flowers proper (small fleshy bodies clustering about the spadix) are open. It is now in bloom at Kew.

* This note has been unavoidably held over for about a month.

The species is a native of Nicaragua, where it was discovered by Dr. Seemann in 1869, growing among brushwood near rivulets. It was first flowered in Europe by Mr. William Bull in his nursery at Chelsea in 1873. It was then known as *Godwinia gigas*. W. W.

SOME USEFUL ORCHIDS.

ODONTOGLOSSUM GRANDE.

GENERALLY accorded a rather higher temperature than *Odontoglossums* in general, and as a consequence its blooms are produced in August and September. There are generally plenty of other flowers available at this season, so that the beautiful Orchid blooms do not receive the admiration that would be accorded them did they put in an appearance when competition was less keen. By growing some of the plants rather cooler than others, the blossoming period may easily be retarded, and flowers obtained quite easily until the end of October, when they retain their beauty longer and are much more appreciated. Last year our first plant did not bloom until October 7, in spite of the hot weather we experienced during September. After flowering a partial rest is beneficial, and plants should be reported at the end of February or beginning of March.

DENDROBIUM CHRYSANTHUM.

One of those easily grown accommodating Orchids which every grower, however humble, should possess. It never fails to flower when treated at all fairly, may be had in bloom for a considerable portion of the year, and often produces as many as forty or fifty flowers on one of its pendulous stems. The flowers are produced in little clusters of three or four, which taken off just as they are make charming little buttonholes, and last for two or three days in water. The best time to repot is directly the flowers fade, as the growths of the plants generally push up with the advent of the blossoms.

CALANTHE VEITCHI AND C. VESTITA, with their beautiful varieties, are perhaps the most useful of all autumn-flowering Orchids for table or house decoration, as they produce racemes from 1 foot to 3 feet long, and frequently bear as many as twenty flowers on each. They are both deciduous species, and should have small seedling Ferns pricked in among the pseudo-bulbs before flowering if plants are wanted for decorative purposes, otherwise their bare appearance is rather an eyesore. Being terrestrial, they require a heavier compost than the generality of Orchids, and this is furnished by a mixture of good sandy fibrous loam, leaf-mould, and decayed

cow manure. They must be well watered when growing, and a decided period of rest given when the flowering season is over, with a thorough shake out and repot in March or April.

BURLINGTONIA DECORA VAR. PICTA.

The rosy red and purple flowers of this Orchid make a charming addition to the warm house section. It is a native of Brazil, and, like *B. decora*, likes plenty of heat and moisture, which may be lessened when the plants are resting, but not too greatly or too suddenly, as plants once allowed to shrivel rarely do well afterwards. This variety forms a very pretty little plant on a block of charred wood, a raft, or small basket, and should never have much compost over its roots. White scale should be constantly sought for and exterminated.

PLEIONE LAGENARIA

is quite one of the most attractive little Orchids of all that bloom in autumn, and were it only furnished with leaves during its flowering season it would take even higher rank. Unfortunately, the plant is deciduous, and is entirely leafless at blossoming time, so that it becomes necessary to hide its bare appearance by inserting tiny Ferns, fresh sphagnum moss, or *Selaginella* between its curious little bulbs. *Selaginella kraussiana* or *S. k. aurea* is perhaps the best thing to use for this purpose, as if lifted with a fair amount of soil it does not flag, and soon forms a pretty green carpeting for the choice blossoms. As soon as flowers fade the *Selaginella* should be removed or it will impede the progress of the young growths that are pushing up, and also form a refuge for the tiny slugs, which are very partial to the *Pleiones* tender shoots. It is a native of the mountains of India,



DRACONTIUM (GODWINIA) GIGAS IN THE ROYAL GARDENS, KEW.

and rejoices in the popular name of Indian Crocus. It should be grown in shallow pans, repotted every year, and well rested when the growths are mature, watering again when flower-spikes start springing up.

LILIA PERKINI

is an October-blooming Orchid of great value and beauty. There are two distinct kinds of L. Perrini, one with long pseudo-bulbs and leaves, the other with both short and stout. I think as a rule the taller growing one flowers earlier than the shorter one, which with us comes in about the middle of November, while the other produces its blooms in October, one of my plants at that time bearing eight blooms on three flower-scapes. The flowers are large and showy, 5 inches to 6 inches across, of a light magenta-rose colour, with a rich crimson lip. The flowers last about a fortnight under normal conditions, but we find a heavy fog finishes them off at once. Grow in the Cattleya house, and treat in a similar way to C. Trianae, pericaliana, &c., to which it bears a strong resemblance.

CYPRIPEDIUM HARRISIANUM.

No one fails to admire this bold, handsome flower, glittering in the sunshine as though freshly varnished, and as it blooms freely and often during the dull months of the year, it is well worthy of cultivation. One plant, I note by the label which bears the dates of its previous blossomings, has produced flowers at five different seasons in less than three years, which, including its present display, gives an average blooming time of twice a year. This same plant frequently produces two flowers on a stem, though one is the normal number, and they remain on the plant for some three weeks in good condition. It is a hybrid between C. barbatum and C. villosum, both of which are strongly represented in their offspring.

DENDROBIUM FIMBRIATUM OCLUTUM.

Although this is a spring-blooming plant—and ours annually produce hundreds of their exceedingly beautiful fringed blossoms at that season—yet we never fail to get a few racemes of its rich orange flowers with their deep purplish spot during the autumn months, when, although somewhat smaller than those produced in spring, yet are they very acceptable. Unfortunately, it requires too much head room for a small collection of Orchids, otherwise it is of very easy culture, only requiring repotting once in about three years, and a good rest induced by the gradual withholding of water and a lowering of temperature during the winter months. I remember how a buttonhole I wore of these flowers puzzled several gardening friends whom I met at the November Chrysanthemum show at the Aquarium a few years ago, as they had never heard of its blooming at that season before. Unfortunately, the blossoms are not very long-lived, ten days to a fortnight being about the length of their existence.

E. J. CASTLE.

Strathmore Road, Croydon.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

OLEARIA HAASTI.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—One feels pleased to see what has already been said in THE GARDEN about this beautiful shrub and its hardiness in Scotland. Growers on the east of Scotland have, in some things, the advantage of those in the south-west, who have sometimes to contend with an excess of moisture—not the best thing for some shrubs. We, however, have little difficulty in growing the valuable Olearia Haasti, and it seldom suffers to any extent when not exposed to cold draughts of wind. I do not, however, find that it dislikes a peaty soil, and its less vigorous growth there is sometimes an advantage, as it is not everyone who can give it such a place as it occupies, say, in such charming spots as Fota, where it is quite a

tree. I think it flowers more freely and is more satisfactory with us when rather starved, and in such conditions never fails to bloom here in a most profuse manner. It is considerably harder than either O. stellulata or O. macrodonta in this part of Scotland. Its flowering time makes it very valuable, as we have nothing else like it at that season.

Carsthorpe, by Dumfries, N.B.

S. ARNOTT.

MELANOSELINUM DECIPIENS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Can you kindly tell me through your columns if Melanoselinum decipiens is the correct name for a plant which I have, and if so of what part of the world it is a native? The name was given me by a gentleman in whose garden I saw it growing, but I cannot find it in Nicholson, nor did Mr. Peter Barr, to whom I showed it when he was here, know it. My specimen is about 3 feet 6 inches high, and it grows to about twice the height. It has a stout stem, from the summit of which springs a crown of handsome pinnate leaves over 4 feet long, which grow horizontally for a short distance, then droop towards the ground, which the tips almost touch. The leaves are not unlike those of Aralia spinosa in form, but are much larger in proportion to its height than those of any specimen of that plant which I have ever seen. The individual leaflets are finely serrated, of a light green, and smooth on the surface. Each leaf has a sort of sheath at its base, from which the new leaves spring, growing alternately in different directions, and as each new leaf comes an old one turns yellow and drops. The flower is of a dirty purple colour, and when it seeds it apparently dies, at least, that is what happened in the case of one in the garden of a neighbour of mine. It must take a good many years to come to maturity, as I have had mine for several years. I have never seen it flower, but have had a casual view of a truss or part of a truss of bloom. I did not have an opportunity of examining it, but from what I saw of it the individual flowers were small, and though the truss was not flat, I fancy it must belong to the Umbelliferae. The flower seemed to be not unlike that of Ligusticum latifolia, but as that plant is a native of the islands lying south of New Zealand, it may not be known to you.

Dunedin, N.Z.

A. BATHGATE.

[Melanoselinum is reduced by Benth to the genus Thapsia, under which you will find the plant in question described in "Nicholson's Garden Dictionary." It is a native of Madeira. There is a figure and full account of it in the "Botanical Magazine," t. 5, 670, under the name of Thapsia decipiens. It exudes when cut a fragrant resin that smells like turpentine.—J. G. BAKER.]

PANSIES FROM CUTTINGS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Will you please tell me how to get Pansies or Violas from cuttings, as I am desirous of raising a stock in this way.

V. C. T.

[For spring planting strike the cuttings in September and early October, and much later when the weather is suitable. Their propagation may even be done all through a mild winter, and instances could be given where large numbers of cuttings were inserted in October, November, and December, and again in February and early March, with satisfactory results. In the case of cuttings for spring planting the cutting-bed should be made up in the warmer aspects of the garden, as full advantage must be taken of the genial influences of the sun in the dull months of the year. Choose therefore, if it be possible, a spot facing south or south-west, and place around the cutting-bed a rough framework of 8-inch or 10-inch boards as a protection against strong winds, which are more troublesome than frosts.

Prepare the cutting-bed as follows:—Dig deeply the ordinary soil of the garden, break it up well, and then to the depth of 6 inches to 8 inches spread over it a compost made up of equal parts of loam, leaf-mould, and spent Mushroom-bed material. Add to the foregoing another equal part of coarse silver

sand or clean road grit, and thoroughly mix the preparation, then pass the heap through a sieve with a half-inch mesh, after which it should be spread evenly and carefully over the allotted area. The levelling of the surface is an important matter, and should be carried out with the utmost care. Make the soil fairly firm by the aid of boards or the back of a spade, and an hour or two before the cuttings are to be inserted thoroughly water the cutting-bed with a fine-rosed can, and there is none to equal the "Haw's patent," which distributes the water finely and evenly without running away or causing channels to develop on the surface of the soil. The numerous holes in the rose are so fine that the water is emitted in a fine spray-like manner; also refresh the cuttings in the evenings of hot days. Select as cuttings shoots of recent growth, not coarse and hollow stems, and they should be 2 inches to 3 inches long. Remove the two lower leaves, and cut the cutting-stem straight across immediately below a joint with a sharp knife. If when removing the cuttings from the old stools any of them can be detached with small roots adhering so much the better.

Deal with one variety at a time, making the required number of cuttings of each kind, and inserting these before proceeding with another. Insert the cuttings in rows, first placing at the head of the row the label with the name of the variety and the date of propagation. A narrow and straight strip of wood should be had in readiness, this answering the purpose of keeping the rows straight and regular, and thus economises space and prevents confusion. Dibble the cuttings in 2 inches apart in the rows, pressing the soil firmly at their base, in this way avoiding "hanging," which usually results in the cuttings dying; therefore it should be repeated, and make the soil firm at the base of the cuttings if you wish to succeed. There should be a distance of 2½ inches to 3 inches between the rows, according to the variety. When the whole of the cuttings are finished with give them a good watering, again using the fine-rosed can. The autumn propagated cuttings will naturally be rather longer than those put in during spring, but in most instances they will be sufficiently rooted to carry the young plants through the winter with little risk of failure.

Some may express surprise that the use of cold frames for propagating has been condemned, but as the Pansies, the Tufted Pansies (Violas) more particularly, are perfectly hardy it is a mistake to coddle them in frames. One may sometimes obtain all the cuttings required without cutting back the plants or interfering with their free display in the summer and autumn months. From time to time, as opportunity offers, detach young growths from the crowns of the plants. If these are removed with care they will not interfere with the continuous blooming of the plants in the flower border. This operation may be repeated at intervals until a sufficient quantity of cuttings of each kind has been inserted. Those with limited space, as in the case of many suburban gardens, may raise a small batch of plants in wooden boxes some 3 inches to 4 inches deep, or in pots of suitable size. They must, however, be placed in a cool position during the summer propagation, or stood under a south or south-west wall in the autumn and winter months.—Eds.]

PLANTING POTATOES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Your correspondent Mr. Longhurst in his note on the above subject mentions that if Potatoes be planted with the aid of a dibble in close soil the hole may retain water should heavy rain fall, and thus cause the tubers to decay. I have not had such an experience, although I grew Potatoes largely in very stiff soil for many years. But when he advises throwing out a trench from 4 inches to 6 inches deep, then planting the tubers in the bottom of the trenches by dibbling holes deep enough to bury the tubers, he seems to have overlooked his former caution. If there is danger that tubers planted in dibbled holes on the flat would decay with wet, how much more likely is the

evil to be intensified by dibbling holes at the bottom of a trench that might itself become filled with water under heavy rains. Planting depends on many things, but especially on the condition of the soil. First, early Kidneys, such as Ashleafs, put on to a warm border are best planted in rows as the digging of the ground proceeds. It is a good plan to have in planting for these a compost of leaf soil, old pot soil, wood ashes, and soot, and give a liberal dressing in each trench before filling in. For strong growers and main croppers it is a good plan to throw up the ground with the aid of long steel forks into sharp ridges 3 feet apart. Then in March to lay a dressing of half-decayed stable manure along the furrows, to dig that in deep, well breaking the soil, and then in April to draw shallow drills along each furrow with a hoe, to plant the well-sprouted sets carefully 15 inches apart, then to give a dressing of compost such as I have described, and to fork in and cover up from the pulverised ridges. After the tops are well through the breadth between the rows should be forked over, then the soil is in capital condition for moulding up. Before that is done a thin dressing of kainit salts may be given with advantage.

A. D.

WATER GARDENS.

As April and early May are the best times to plant the hybrid and other Nymphæas, the subject of water gardens is interesting, and the present article is a prelude to several which we hope shortly to publish, not merely

about the flowers for the water surface, but those to plant by the margins of streams and lakes. In *THE GARDEN* of February 13, 1897, page 113, is published an article of great interest and importance from the pen of one who has striven, with conspicuous success, to bring home to the lovers of English gardens the beauty of water gardens. We cannot do better than quote some of the remarks there made:—

"Perhaps the most beautiful of all water gardens are the river and stream gardens, as their form is so much better than anything we can make and the vegetation is often rich, even without care. With a little care we can make it much more so, and in our river-seamed land there are so many charming sites which will come well to help the garden or lawn picture.

"The stems of Reeds and tall grasses in winter are very good in colour, and should always be allowed to stand through the winter and not be cut down in the old tidy way that all gardeners used to practise, sweeping away the stems in autumn and leaving the surface as bare and ugly as that round a besieged town. The same applies to the stems of all waterside and big herbaceous plants, stems of plants in groups often giving beautiful brown colours in many fine shades. Those who know the plants can in this way identify them in winter as well as in summer—a great gain in

changing one's plantings and in increasing or giving away plants. Moreover, the change to all these lovely browns and greys is a distinct gain as a lesson in colour to all who care for good colour, and also in enabling us to get more beautiful contrasts and effects in our winter gardens.

"The water-margin offers to lovers of hardy flowers a site easily made into a fair garden. Hitherto we have used in such places aquatic plants only, and of these usually a very meagre selection; while the improvement of the water-side will be most readily effected by planting the banks near with vigorous hardy flowers, as many of the finest plants, from Irises to Globe Flowers, thrive in moist soil often near water. Bank plants have this advantage over water plants that we can fix their position, whereas water plants spread too much, and some one kind often over-runs its neighbours. The repeating of a favourite plant at intervals would mar all; groups of free hardy things would be best: Day Lilies, Meadow Sweets, Phloxes, which love moisture; Irises, mainly the beardless kinds, which love wet places, and all the German Irises; Gunnera, American swamp Lilies in peaty soil, the rosy Loosestrife, Golden Rods, Starworts, the Compass plants, Monkshoods, giant Knotworts, the stouter kinds of Yarrow and Moon Daisy, the common Lupine—these are some of many types of hardy flowers which would grow freely near the water-



IN THE WATER GARDEN AT WISLEY, SHOWING JAPAN IRIS AND OTHER PLANTS IN FLOWER.

side. With these hardy plants, too, a variety of the nobler hardy Ferns, such as the Royal Ferns and Feather Ferns, would also associate well.

"Water plants of northern and temperate regions, associated with our native plants, add much beauty to a garden. If the soil be rich, we usually see the same monotonous vegetation all round the margin of the water, and where the bottom is of gravel there is often little vegetation, only an unbroken, ugly line of washed earth. A group of Water Lily is beautiful, but Water Lilies lose their charm when they spread over the whole of a piece of water, and waterfowl cannot make their way through them. The Yellow Water Lily (*Nuphar lutea*), though less beautiful, is well worthy of a place, and so is the large *N. advena* (a native of America), which pushes its leaves boldly above the water. The American White Water Lilies (*Nymphaea odorata* and *N. tuberosa*) are hardy

flower, and, taking them to the bank, eats them at its leisure, leaving the petals there. But when the plants are small, the attacks of the common moorhen and other waterfowl may mean all the difference between life and death to a Water Lily. Perhaps, therefore, the first thing to be done in establishing these plants is to put them in a place (some small pond) apart from the rougher waterside plants, and especially where they will be safe from the

destructive to everything else, that it is essential to destroy it at the same time, as it often abounds near water. Certain rare Water Lilies should be grown in places apart where we expect to get the best results from young plants. When these become plentiful they may be put anywhere and take their chance. Thus there should be two divisions of the water garden, and, considering the great beauty which these Water Lilies give us and the little care they require, they are well worth this attention. Once established nothing gives a better result and finer or longer bloom without care or protection of any kind. But what we wish to emphasise is, that, apart from waters fed by natural streams, it is desirable and often easy to have a little water nursery to keep Water Lilies in—a small pond in any place not frequented by water animals which are not fond of being away from streams or lakes. Even in a large fountain basin the plants would get strength because free from attacks at first."

AN ARTIST'S NOTE-BOOK.

HOOP PETTICOAT NARCISSUS.

ALl the varieties of the Hoop Petticoat Narcissus, as the *N. corbularia* group is familiarly called, always excite interest, and not infrequently admiration also, when seen in large numbers and in good condition. This is doubtless due to their very pretty outline, and which even among the Daffodils is well nigh unique. Their dwarf, even miniature, growth is an item that not infrequently suggests pot culture as the best means of growing them, and in this way these kinds are often seen to advantage, which, in other words, implies that you get the entire plant, foliage and all; indeed, without the pretty Rush-like leafage, half the beauty of the plant is gone. The showiest kind for pots is no doubt the rich yellow *N. corbularia*, also called *corbularia conspicua*, the yellow tone being very rich and full. Large bulbs of this kind produce quite a number of flowers, so that half-a-dozen in each pot would make quite a display. For early work under glass this does not receive the attention its merits deserve, and being one of the cheapest sorts should only be an additional point in its favour.

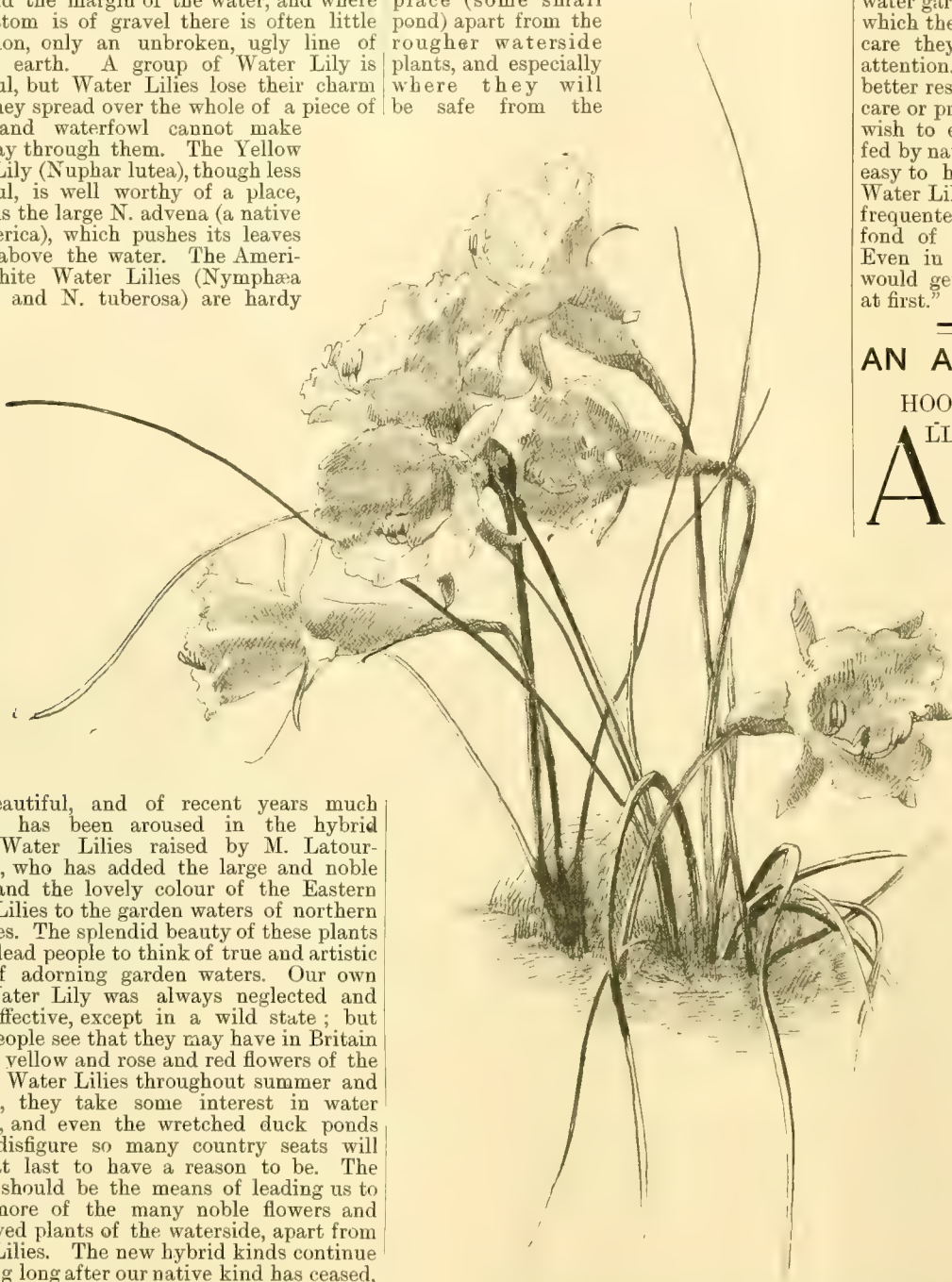
The white Hoop Petticoat, *N. monophyllus*, is certainly among the most chaste of winter blossoms in the open ground, and, though a good pot plant, one's present knowledge of it will not permit of its being placed on a par with the first, either for freedom or general

and beautiful, and of recent years much interest has been aroused in the hybrid hardy Water Lilies raised by M. Latour-Marliac, who has added the large and noble forms and the lovely colour of the Eastern Water Lilies to the garden waters of northern countries. The splendid beauty of these plants should lead people to think of true and artistic ways of adorning garden waters. Our own poor Water Lily was always neglected and rarely effective, except in a wild state; but when people see that they may have in Britain the soft yellow and rose and red flowers of the tropical Water Lilies throughout summer and autumn, they take some interest in water gardens, and even the wretched duck ponds which disfigure so many country seats will begin at last to have a reason to be. The change should be the means of leading us to think more of the many noble flowers and fine-leaved plants of the waterside, apart from Water Lilies. The new hybrid kinds continue blooming long after our native kind has ceased, and from the middle of May to nearly the end of October flowers are abundant.

"Many water plants will grow almost anywhere and bid defiance to game or rats, but the new Water Lilies, which for a long time will be rare, are worth looking after, as they will not show half their beauty if they are subjected to the attacks of certain water animals. They may, indeed, when young be easily exterminated by them, and even when old and established the common water rat will often disfigure and destroy the flowers. The water rat attacks the succulent parts of the

attacks of the water rat and other creatures which cannot be kept out of ponds fed by streamlets. By these and river banks or backwaters water rats often take a lot of killing to keep them down, and guns, traps, ferrets, or any other means must be used. The common brown rat is not, we think, so fond of these flowers as the true water rat, but it is so

decorativeness. As a "button-hole" flower it is quite unique. This kind is best grown in a damp, yet sunny, colony in peat, leaf-soil, loam, and sand in equal parts. Frequently imported roots take a long time to start into growth, in which respect it is peculiar. The large sulphur kind, *C. citrinus*, is the largest of all, and possesses a freedom of its own, yet not so pro-



NARCISSUS CORBULARIA (MONOPHYLLUS) IN MESSRS. BARR AND SONS' NURSERY AT LONG DITTON.
(From a drawing by H. G. Moon.)

fusely free as the first-named. It is pretty as a variety, very distinct, and easily cultivated. The other members of this little set are *C. tennifolius* and *C. nivalis*, both having yellow flowers, which appear quite early.

Generally and broadly in cultivation all the kinds may be regarded as moisture-loving, though the white kind may be so in a much less degree. In any case, however, the degree of wetness should be controlled by circumstances, and where applied it may be given during the rooting and growing periods. A very pretty carpet of these in variety could be arranged amid tufts of the *Daphne cneorum* or similar plants, while the old yellow would appear to advantage on a moist grassy slope. In colonies on the rockery here and there one ever expects to find such things, and in such places if need be a special treatment can always be meted out to them. Once established, I would strongly advise that no extended drying period be given to the white kind, for this one at least appears much opposed to it.

E. JENKINS.

SANTA ROSA, CALIFORNIA.

THE Mexicans who founded the hacienda or station of Santa Rosa, on the site of the present American town, only thought to honour a patron saint in the title they gave it, but of late years no one who visits the place in April or May will deny the propriety

of the name Santa Rosa or its Americanised form City of Roses by which it is almost as widely known as by its musical Spanish cognomen.

As a flower grower's paradise Santa Rosa is exceptionally well located. Two streams pouring from the mountains to the east deployed upon a plain deep with a black soil and left a deep coating of alluvium upon its already rich surface. Only sixteen miles to the west lies the Pacific, and a low range of hills breaks the cold westerly winds, while it offers no barrier to the fog banks which roll over them from the ocean frequently at all seasons. These, aided by other fogs which are blown up the broad valley which extends south to San Francisco Bay, temper the heat and give much moisture during the rainless summer, and during ordinary winters so ward off frosts that such tender plants as Callas, Fuchsias, Geraniums, and Heliotrope pass through unhurt, and in summer grow in the utmost profusion. Oranges thrive and are loaded yearly, and a great variety of half-hardy trees and shrubs do well. As to Roses, and the very best of Roses, mostly evergreen Teas and Hybrid Teas are in every garden, climbing on every veranda, covering fences, and forming hedges here and there. They flower in wonderful profusion in their first spring bloom, and continue into November, and sparsely all the winter in some seasons. They are commoner than the most ordinary flowers

in most towns, and such bushes! Cloth of Gold, 30 feet or 40 feet long on trees; Duchess de Brabant, 15 feet in diameter; Lamarque covering large verandas, and many others in like proportions. Our Californian people are not as a rule good floriculturists. They have occupied themselves too busily with the development of the resources of land which fifty years ago was a wilderness or cattle range as the case might be, and their skill has been developed on lines of orchard and vineyard rather than in coaxing the beauty out of plants. Here at Santa Rosa, however, perhaps stimulated by a desire to make the place a city of Roses in fact as well as name, they have really learned to care for them properly.

In street trees Santa Rosa is also rich. In Northern California there has been an evolution in the class of trees planted for shade. The earlier settlers in the rural regions were largely from the southern and south-western states, and had a traditional regard for the Black Locust. For years it was practically the only tree planted for shade. Many of the trees planted between 1850 and 1870 still stand, now of the largest proportion. In winter their black branches and many dark persistent pods are not beautiful, but when they become great masses of light green, and a little later, when their long white racemes of papilionaceous flowers almost conceal the foliage and their fragrance perfumes the entire neighbourhood, there is something very like



THE AVENUE OF EUCALYPTUS GLOBULUS (TREES FULLY 120 FEET HIGH) AT SANTA ROSA, CALIFORNIA.

full compensation for their winter ugliness. The native Oaks about Santa Rosa do not reach the grand proportions of those in the valleys of Mendocino and the lake counties a little to the north; but, nevertheless, the many specimens of *Quercus lobata* in and about the town are very beautiful, with much of the weeping habit which is one of the chiefest charms of our "Valley Oak," as it is oftenest called. Some very pretty specimens of "Black Live Oak" (*Q. aquifolia*) are also to be seen about the valley. These, with an ample growth of several species of Willows, of Box Elder (*Negundo californica*), of Oregon Maple (*Acer macrophyllum*), and of Alder (*Alnus oregana*), which mark the line where the two streams wind through the town, are Nature's contribution to the beauty of the place. Following close upon the Black Locust in the succession of shade trees in Northern California, came various importations from Australia, *Eucalyptus* and *Acacias*. From 1870 on for years the papers were full of eulogies of the genus for fuel, for wind-breaks, and for shade. All over California they were largely planted, often by the acre, for fuel. Some of these old growers are striking features on the hills west of the Santa Rosa Valley, which are otherwise treeless. *Eucalyptus globulus* was planted on both sides of a broad avenue in Santa Rosa, and the trees, now fully 120 feet high, with their smooth brown trunks almost as perfect columns as the great Conifers, make a noble corridor, whose beauty the accompanying photograph may help your readers to appreciate.

Acacia mollissima, a round-headed tree with finely pinnated foliage, was a favourite in the seventies, and deserved to be, but the belief that it was a nursery for certain injurious scale insects caused many a beautiful specimen to be sacrificed. In the warm days late in February they are glories of golden bloom, as lovely in leaf and flower as a tree well could be.

Two coniferous trees native of the Californian coast were great favourites about the time the Eucalypti were so widely planted, *Cupressus macrocarpa* (the Monterey Cypress) and *Pinus insignis* (the Monterey Pine), both natives of the maritime region near the old Spanish town of Monterey. As a hedge tree or a lawn tree, always shaved into some outlandish shape, the Cypress was and is to be seen everywhere. The Pines escaped the tree barber, and now some noble specimens are to be met with about Santa Rosa, along with some equally beautiful Monterey Cypress, which were so happy as to escape the too careful gardener's clippers.

The next era in tree planting brought the Elms, Maples, and Walnuts. A form of the soft shell English Walnut of local origin is becoming a favourite, and is known as the "Santa Rosa Shell." It grows rapidly, and at an early age bears an excellent nut in good quantity. They are also being planted largely in orchard form.

Of all of the succession of shade trees I have mentioned, the best suited to local conditions would seem to be the Oregon Maple (*Acer macrophyllum*), a native of the surrounding mountains. The rich moist soil exactly suits its requirements, and some of the avenues planted with it are very fine. Some magnificent single specimens are also to be seen by the country roadsides hereabouts.

Dracenas and two Palms (*Chamærops excelsa* and *Pritchardia filifera*) are also used for street planting in portions of the town, and where, as is often the case, fences and hedges are dispensed with, the park-like effect is very pleasing.

Phoenix canariensis, in very handsome form, is quite common in the town. At this season the deciduous Magnolias are in flower and very beautiful, while *M. grandiflora* in fine trees adorns nearly every garden. The San Francisco dealers have for many years imported various Japanese shrubs and plants. Very many of these have, probably from the imported stocks suffering from the long voyage, done indifferently. Two, however, both fruiting, have won a permanent place in the Californian garden. The various Japanese Persimmons are very common. Last autumn I saw many trees hereabouts loaded down to the breaking point with these large beautiful fruits. The Loquat succeeds everywhere as an ornamental tree, but, as a rule, fruits poorly. At Mr. Luther Burbank's Sebastopol grounds, seven miles from here, I saw a tree last spring perfectly loaded. It is pulpy with a large stone, and looks much like a Crab Apple. Mr. Charles Shinn tells me that they are quite a profitable market crop in a small way at Niles.

Araucaria excelsa can hardly be hardy here, for, although common in San Francisco, I have seen none, but *A. imbricata* and *Bidwelli* do excellently. A tree of the latter on Mr. Burbank's grounds is especially fine.

Having said so much of trees, I can scarcely even mention the large variety of others, except to say that a catalogue of the natives of all countries, which could be found somewhere within this place, would be astonishingly large; the same thing may be said of shrubs.

The list of flowering plants would hardly be as creditable, for, as I have said before, few Californians are floriculturists. They are apt to patronise the enterprising nurseryman who has ransacked the earth for trees and shrubs when their grounds are laid out, and as for good Roses, the traditions of the place demand them; but in the flower garden, which requires constant thought, there is not the variety nor quality that many a less favoured European village would show, yet what there is in the profusion that might be expected; but of this in some future letter. CARL PURDY.

Santa Rosa, California, February 26, 1901.

THE KITCHEN GARDEN.

GREEN PEAS.

THE number of persons who do not appreciate the Green Pea when it has been well grown must be very limited, for in it they find a food that is at once peculiarly pleasing to the palate and highly nutritious. True, there are those who are debarred from partaking of this dish, simply because of the percentage of nitrogen contained, but, as a rule, the action of Green Peas upon the system is entirely beneficial. What wonder then that the crop is regarded as of primary importance, and that considerable thought and care are expended in its production! Peas are, therefore, represented in every garden, as well as being grown for market in hundreds of fields throughout the country.

Notwithstanding the immense production, the supply is seldom equal to the demand, except, perhaps, for about a week in the height of the season. Early and late Peas are frequently at a discount, and yet that they can be produced is proved by the splendid results that are attained to in some gardens. It would be absurd in these notes to treat of the very early crops, as these have long been sown in pots or boxes under glass for future transplantation, or on warm, sheltered borders out of doors where pods come to maturity slightly later than those sown indoors and subsequently planted. Now is the time to set about

the cultivation of the main and late crops, over which it would hardly be possible to expend too much attention.

The first consideration must be the soil. It is futile to expect to get wholly satisfactory results unless the rooting medium is stocked with food and is in perfect mechanical condition. As far as the latter is concerned, trenching, if the sub-soil is sufficiently good to allow of it, is the best means; failing this, mock trenching should be resorted to, as this, while materially deepening the ground, leaves the strata in their original positions. The surface should be left even and free from lumps.

In the process of working comes the manuring, and excellent as are chemical manures for all crops they ought not to be exclusively relied upon for Peas and Beans. Let the dressing of natural manure be a generous one, and if it is considered that a little more food would be advantageous, apply a mixture of phosphatic and potassic elements in the drills at the time of sowing; nitrogenous foods are very necessary, but being more fleeting in their nature, are better applied at a later date, when in fact the plants are well through the ground. The deeper the soil is worked, and the heavier, within reason, it is manured the longer, other things being equal, the plants will remain productive.

The errors that are made in Pea culture are not generally in relation to the preparation of the ground, but in the distance apart at which the plants remain in the rows, and the space between the rows. It should always be borne in mind that the Pea will branch if it is allowed room to do so, and that light and air must have unrestricted access to the plants from the point of emergence from the soil to their extreme tips. In relation to the distance from row to row a safe rule to adopt is to allow double the known height of the variety; the intervening space can be judiciously cropped so as to prevent waste of ground, and at the same time give the Peas every chance. In regard to space from plant to plant, we must again be governed by the variety, but there are few that ought to be closer than 4 inches, and the majority should be half as much more. By these means a stout, succulent basal growth is formed, through which food can pass freely to the plant above. Thus we ensure not necessarily an increased number of pods, but these are of larger size, and the Peas within them are infinitely superior in flavour to those grown on plants that are close together both in and between the rows. In finishing off the ground prior to drawing the drills, there should be a slight fall towards the position of the rows.

When the plants have made 6 inches of growth above the ground, and have been properly thinned, staking should receive attention, as this operation has a material effect upon after results. The sticks should have side branches, and be so placed as to interlace and form a perfect support for the plants. If the ground round the plants has become firm, loosen it with a pointed stick, and apply an ounce or so of nitrate of soda to 15 yards length of row.

During the whole period of growth the surface should be kept as loose and dusty as possible, and dressings of soot at fairly frequent intervals will have a markedly beneficial effect upon the quality and colour of the Peas. If a dusty surface is maintained above a deep root run the plants will continue cropping over a much longer period in droughty weather than when the ground is allowed to crack and the moisture, carrying with it the food, is allowed to escape into the atmosphere and become wasted.

In respect of prolonged productiveness, however, it is found that the ingathering has the most effect. If the pods are gathered immediately they reach maturity the plants continue bearing. If, on the other hand, the pods are permitted to remain, and ripening commences, the nutriment gathered up by the roots passes to the development and the perfecting of the seeds, and is thus diverted from the half-developed pods and later flowers. Experience teaches that close picking of pods, as with the flowers of Sweet Peas, has a

remarkable effect upon the prolongation of the period of profitable bearing.

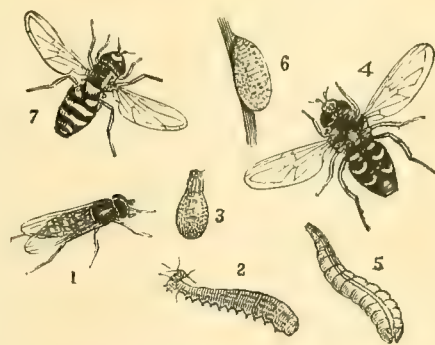
There is one other thing which must have the most careful consideration, and that is the question of varieties. Of new comers, the best I have seen is Edwin Beckett, which is hardy, early, and a very heavy cropper. The pods are large, handsome, and the Peas of great size and excellent flavour and colour. It attains to a height of about 4 feet 6 inches. This should be given a trial. Varieties that have proved their calibre are Sutton's May Queen, Chelsea Gem, Danby Strata-gem, Prolific Marrow, Eckford's Rex, Carter's Michaelmas, and, lastly, Veitch's Autocrat. The latter is a grand late Pea, and though it has not the same excellence of flavour that is common to those previously named, its lateness makes it absolutely indispensable to the well-furnished vegetable garden.

H. J. WRIGHT.

INSECT FRIENDS.

VARIOUS insects are of the greatest service possible to the horticulturist—in fact, without their assistance it would be almost useless to try to cultivate plants at all. These insects belong to several orders, perhaps those that could least be spared being the ichneumon flies and their near relatives; these insects usually lay their eggs in the bodies of caterpillars, grubs, and aphides, but some species deposit their eggs in chrysalides and in the eggs. These insects, though called ichneumon flies, do not in any way belong to the order of flies proper, which are two-winged insects, but they are classed in the same order as the saw flies, ants, bees, and wasps, and, like them, have four wings. They are nearly all slender in form, and have long legs—the upper pair of wings being considerably larger than the lower pair—whilst the end of the body in the females is furnished with a long pointed organ, known as an ovipositor. In some species this organ is of great length, being longer than the rest of the insect, and enables the possessor to reach its victim, which may be a wood-boring grub, or so placed that it would be inaccessible to the insect otherwise. In other species it is quite short, and may be entirely hidden in the body of the insect when not in use. The ichneumon flies do not try to kill their victims by piercing them with their ovipositors, their only desire is to lay their eggs within them; as soon as the grubs are hatched, they begin to feed on the juices of their host. Caterpillars attacked by these parasites live and feed for some time, and have been known to become chrysalides, but this effort on their part is generally more than they can manage. Several of the smaller species attack various kinds of aphides. One may often see on plants a large brown aphid with a swollen rounded body—the result of infestation by one of these parasitic insects; the latter vary much in size, from insects somewhat larger than those shown in the figure to others about the size of a midge. They are generally black-brown or some dull colour, though some have a bright band across the body.

The Hoverer flies (*Syrphus pyrastris* and other species) are very common, and may often be seen hovering, apparently motionless in the sunshine, near trees or basking on leaves with their wings outspread. Their grubs are most voracious, and feed entirely on aphides. They are quite blind, though, having neither eyes nor legs, they manage

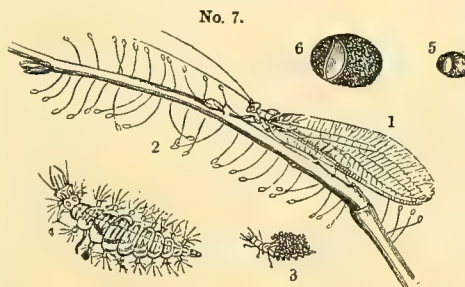


HOVERER FLIES.

1. *Syrphus balteatus*. 4. *Syrphus pyrastris*. 7. *Syrphus ribesii*.
2 and 5. Grubs. 3 and 6. Chrysalides.

to kill an enormous number of aphides. They cling on to the leaf or stem on which they are by means of certain tubercles near the end of their bodies; raising their heads and the first few joints of their bodies, they strike about until they touch an aphid, when they immediately seize it, hold it up in the air, and suck the contents of its body completely out, which is only the work of a minute and a-half. They then turn their heads on one side, drop the empty skin, and at once search for another aphid. These grubs are about half an inch long, the widest part being at the tail, and gradually taper to the head. Their mouths are furnished with a double hook, with which they secure their prey; they are of a greenish or yellowish colour, the chrysalides being pear-shaped and of a brownish colour. They are formed on the stems where the grubs have fed.

The Lace-winged or Golden-eyed fly (*Chrysopa perla*), though not so common as the lady-birds, is



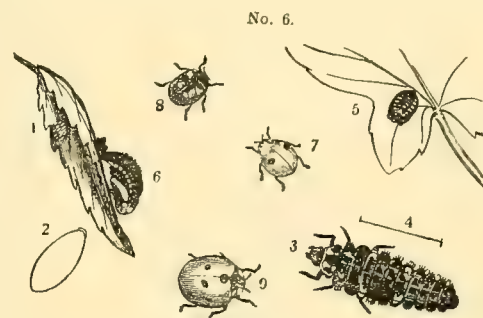
THE LACE-WINGED FLY.

1. The Lace-winged Fly. 2. The Eggs.
3 and 4. The Grubs. 5 and 6. The Chrysalis.

by no means unusual, and their grubs, as well as those of some nearly allied species, destroy an enormous number of aphides. The parent insects have small slender bodies, and two pairs of large pale green gauze-like wings, which measure about 1½ inches from tip to tip when open. The eyes are prominent, and of a very brilliant golden colour. Notwithstanding the size of their wings, these insects fly very slowly and in a fluttering manner, so that they are an easy prey to their enemies. They are protected, however, to some extent by having the power of emitting a most disgusting smell when touched; the eggs are very beautiful and curious, and are often mistaken for fungi or the seed-vessel of a Moss, as each is perched on the top of a long stalk sometimes 1 inch in length. These eggs are laid in a cluster of a dozen or so together. The female, when about to lay an egg, probably touches the leaf or stem with the end of her body, and, exuding some sticky substance, raises the end of her body in the air, and so draws out a fine thread, which soon dries, and on the top of which an egg is placed. It is supposed that the object of this peculiarity in the position of the eggs is to prevent injury when amongst a crowd of aphides. The grubs are some-

what like those of the lady-bird in shape, being, when full grown, about three-eighths of an inch in length, and of a dirty white or pale brown colour, with brownish or orange spots. There is a row of tufts of hair on either side of the body; the grubs of some species cover themselves with the dead bodies of their prey, or with bits of lichen. Their chrysalides are small white cocoons, about the size of a small flea.

Lady-birds (*Coccinella septempunctata* and *C. bi-punctata*). The grubs of these insects are most useful in destroying aphides. The parent insects are too well known to require any description, as everyone is familiar with the seven-spotted and the two-spotted lady-birds; the grubs are known in hop gardens as "Niggers." They are flattish, of a leaden grey colour, and ornamented with black and yellow spots; the grubs of both species are very much alike, but those of the two-spotted species are considerably smaller than those of the



LADY-BIRDS.

1 and 2. Eggs (natural size and magnified).
3 and 4. Grub
5 and 6. Two-spotted Lady-bird and Chrysalis.
7 and 8. Seven-spotted Lady-bird and Chrysalis.

other, being not more than a quarter of an inch in length. It is unfortunate that when destroying aphides on a plant by means of an insecticide it is impossible to help killing useful insects at the same time, but if noticed they should always be removed before a plant is syringed. It is a pity that all the friends of the gardener are not as well known as the pretty lady-bird, which every child is taught not to crush, but to preserve because it is not harmful. There is a sad want of knowledge of the friends and foes of the gardener. Everything that is an insect is considered an enemy and treated accordingly, with the result that many things are exterminated which are actually of great benefit to our crops. We hope that these few notes about the friends will do much towards promoting a better knowledge. The excellent illustrations which accompany these articles are reproduced by permission from the leaflets issued by the Board of Agriculture and from "Curtis' Farm Insects," published by Gurney and Jackson.

G. S. SAUNDERS.

INDOOR GARDEN.

TREE PÆONIES.

WITHIN the last decade Tree Pæonies have become more popular than they were previously, and beside the numbers that are propagated in this country we now receive large importations from Japan, some delightful varieties being included amongst them. They were first sent about a dozen years ago, and at that time high prices were realised at the London auction rooms. This apparently acted as a stimulus, for much greater numbers followed in after years, and consequently they can now be purchased at a considerably cheaper rate than was formerly the case. These Pæonies, as a rule, travel well, the roots being tightly packed in Moss, while the tops are allowed sufficient space for a free circulation of air around them, this being assisted by holes bored in the



ICHNEUMON FLIES.

boxes opposite these air spaces. A great drawback in connection with these Moutan Pæonies is that they are all grafted on to the roots of some vigorous growing kind, whose suckers are a most intolerable nuisance, even if every bud is removed previous to planting. In the catalogue of a leading Japanese nursery firm fifty varieties of Pæony Moutan are there announced, the range in colour being pretty considerable. Among the many imported plants that have come under my notice are several in which the flowers are white, or nearly so, one in particular bearing a huge single blossom, with petals of a dazzling satiny whiteness, somewhat like that which occurs in the flowers of *Romneya Coulteri*. It is a striking kind, though the double or semi-double varieties are admired by the majority.

Apart from their beauty out of doors, Tree Pæonies are well suited for flowering under glass in the spring, at which time their large showy blossoms form a most attractive feature, which appeals not only from its own intrinsic beauty, but also from the fact that it is so distinct from any other class of plants employed for the embellishment of the greenhouse at that season. These Pæonies should by no means be forced in the ordinary acceptance of the term, but brought on in a good light position in a greenhouse temperature, as in this way their usual flowering season out of doors is anticipated by some weeks. From the stout deep descending nature of their roots they need comparatively large pots and good loamy soil, lightened to the necessary extent by well-decayed manure and sand, while during the growing season liquid manure occasionally is of great service. Those plants that have flowered under glass will need great care afterwards, for the delicate leaves are susceptible to injury, hence it will be necessary to protect them until all danger from frosts is over, at the same time plenty of light and air must be given in order to encourage sturdy growth. In potting these Pæonies care should be taken to completely cover the point of union, and a good stake put to each in order to save them from snapping off, which grafted plants are liable to do if they are at all roughly handled. This precaution is doubly necessary when they are planted out of doors. If grown in pots, providing the soil is of a lasting nature and in good condition, these Pæonies will not need repotting for some years, though occasional doses of stimulating manure will be of great service.

In planting Tree Pæonies out of doors give a good deep loamy soil that is not parched up at any time, and yet is by no means water-logged, for thorough drainage is absolutely necessary. Position, too, is of very great importance, particularly in the southern counties, where late spring frosts are often experienced after the tender leaves of the Pæony are sufficiently developed to be quickly crippled. A fairly exposed position in a good open spot, where the growth will be thoroughly ripened, is more favourable to these Pæonies than a warm sheltered nook, as in such a place they start into leaf much earlier. For this reason better examples are to be found in the north than in the south, except in the more favoured districts, where, providing the soil is suitable, and the spot not too much shaded, they may be planted with perfect confidence.

H. P.

IRIS PARADOXA VAR. CHOSCHAB.

ALL who grow Irises and favour that peculiarly attractive little group of *Onocylus* or Cushion Irises, will look upon *I. paradoxa* as one of the most strange and at the same time most desirable of its class. It is now nearly a century since it first became known to European botanists, but it is not too much to say that to-day it is quite as rare in cultivation as it was fifty years ago. This no doubt is due to the fact that only very small quantities of it, and that at long intervals, have from time to time been sent home from its native habitats. Since the Russian botanist Steven

first described it in vol. v. of the "Mémoires de la Société Impériale des Naturalistes de Moscou," it has been noticed by a good many subsequent authors, and coloured plates of this *Iris* have been published in the *Gartenflora*, *THE GARDEN*, and the *Botanical Magazine*. All the descriptions, as well as the figures, represent the flowers with purple-coloured standards, so that it may be assumed that no other varieties besides the originally described purple-coloured one were known to the many botanists who notice it in their works. Steven described his plant from a specimen collected in ancient Iberia, which lies south-east of the Caucasus, but he does not give any fixed locality. Later it has been reported from near Schemacha and Elisabethpol in the same country; also from the district Talych in south-eastern Trans-Caucasia, besides a few more places in the same region. Further to the south-west a new variety was discovered in 1899 which has the standards coloured white, delicately though distinctly veined with lilac-violet. Attractive as the purple-coloured variety is, it must give way in point of beauty to the white-flowered companion form here illustrated. The Messrs. Van Tubergen, of Haarlem, Holland, who obtained this surprisingly beautiful new *Iris* through the collector they sent out in 1899 to north-west Persia and eastern Armenia, first flowered it in their nursery in May, 1900, and many hundreds of the lovely flowers were sometimes open at the same time, specimens continuing to come into bloom long after others had already entirely faded. The accompanying illustration shows the habit of the plant, flower, and bud to advantage, but it cannot, of course, give an idea of the charming combination of colours displayed in the velvety black horizontally spreading lip, with its quaint transverse red marking and the milky-white lilac-veined standards, which when unfolding look like the wings of some strange butterfly. The varietal name Choschab has been given to it from the village near which it was collected in the hills, and to distinguish it from the original purple coloured forms.

Haarlem, Holland.

JOHN HOOG.

[Mr. J. G. Baker says of this *Iris*: "*I. paradoxa* is the only species of the Cushion *Iris* that has those small tongue-shaped outer perianth segments (falls). In all the others they are large and obovate. There is an excellent figure in the *Botanical Magazine* t. 7081 with lilac standards."—Eds.]

NOTES FROM IRISH GARDENS.

DORNDEN, DUBLIN.

DORNDEN is a name not unfamiliar to the readers of *THE GARDEN*. Not so very long ago a photograph, from the camera of Mr. Greenwood Pim, appeared in these columns, showing the lovely *Iris* walk, which has also more than once been fitly spoken of by the competent pen of Mr. Burbidge, through whose good offices I first had the pleasure of visiting this beautiful garden. It is not to be ranked with the greater gardens round the Irish metropolis; it is, however, one of the most beautiful and best kept of those of smaller size. The situation of Dornden is not one which lends itself to the picturesque effects obtainable from grounds of varied contour. It is



IRIS PARADOXA VAR. CHOSCHAB.

on almost a dead level, so that it is principally of interest as showing what good gardening can do to give beauty and interest to such a place.

Unfortunately, Mrs. Burroughes, for long a most devoted gardener and lover of flowers and plants, is now so much advanced in years that she cannot fully enjoy her garden, and is only in it occasionally, so that it is well that her gardener, Mr. Gerald Carroll, takes so keen an interest in it that there is the same attention to the work of the garden as if his employer were visiting it daily and able to supervise it constantly.

One need say little about the *Iris* path, which has already been written of by an abler pen than mine. It is very beautiful indeed, though when I last saw Dornden these flowers were out of bloom. It did not require a great effort of the imagination to recall it as one saw it on a former occasion, when the fresh green grass of the pathway harmonised so beautifully with the fine leaves of the Flag Irises, whose lovely blooms were reared above them. It was a sight not readily forgotten, and made one appreciate the beauty of such a combination. This pathway is in the kitchen garden, and an extension of the grass walk has on either side a number of *Narcissi*, of which many are grown at Dornden, and grown well, too, as one may judge from the luxuriant leaves which still remained. Mr. Carroll is not only a keen, but also a successful exhibitor at the Dublin shows, and the kitchen garden contains, in addition to the capitally grown fruit trees and vegetables, a number of good herbaceous plants for competition and for decoration. Particularly worthy of mention is *Senecio pulcher*, which is here finer than I had ever seen it. It may be that the stock is finer in quality than is generally met with, or it may be due to the soil or cultivation. The plants were vigorous and the blooms large and finely coloured. Capitally grown also was the Willow Gentian (*G. asclepiadea*), which was just of the size one likes to see; vigorous without being coarse. A plant one does not too often meet with was the old double Siberian Larkspur, which does well at Dornden, though I know of one Scottish garden where it is more vigorous. Among the other plants which I observed in capital condition were

Rudbeckia speciosa and *Lobelia syphilitica*. Other useful plants were plentiful, among them *Galtonia candicans*, *Gypsophila paniculata*, perennial Sun-flowers, *Montbretias*, and *Anemone japonica* in several varieties. Large clumps of *Tigridias*, planted in the open for five years and left undisturbed, made one somewhat envious of the climate of this district.

Beyond the kitchen garden there is a pretty bit of shrubbery, which looks attractive in its setting of green turf. The most conspicuous thing here was *Choisya ternata*, which does very well about Dublin. The fine bushes at Dornden were capital examples of the shrub at its best.

The glass department is not large, though quite equal to the wants of the establishment and in proportion to the place. A fine crop of Tomatoes was in one of the houses, and in the conservatory the usual flowering plants were supplemented by *Streptosolen Jamesoni* on the back wall and on the roof. As a climber for conservatory decoration this plant ought to be more grown. Its orange-coloured flowers are shown to far more advantage than in the dwarfier plants generally seen.

The flower garden is not large. A number of beds are cut in the lawn around the house, and these are partly occupied with herbaceous plants, annuals, and bedding flowers, Mr. Carroll's object being to have as long a season of bloom as possible. The herbaceous plants are prettily planted in an informal way, and are very well grown. The climbers on the walls are carefully trained, and add greatly to the impression given by this bright little garden.

The writer's first visit was paid in the company of a gardener of taste and of long and varied experience. On leaving it he said to me again and again: "It is a gem; it is a gem." In a land of good gardens it was high praise, but it was merited, and a second visit gave no reason to modify one's agreement with the sentiment. Small as is the garden at Dornden compared with many of its neighbours, it bears upon it the impress of good work well and faithfully done.

S. ARNOTT.

GENTIANA

ORNATA.

THE illustration here given represents one of the numerous species of Himalayan Gentians at home in its native habitat in the higher regions of the eastern and central Himalaya, where it is found at an elevation of 11,000 feet to 15,000 feet. It is a beautiful large form of the variable *G. ornata*, which is figured in the *Botanical Magazine*, tab. 6,514, with trailing stems, small linear glabrous leaves, and tubular flowers of a beautiful pale blue. The form shown here, however, is more compact in habit, with larger funnel-shaped flowers of the same colour, borne singly on short leafy stems. It is decidedly an excellent variety of the species, and would be a great acquisition to an already large but favourite family.

The cultivation of many of the Gentians from the higher altitudes is attended with many difficulties, missing as they do the pure atmosphere and covering of snow during the winter months. The type of the

above species may be successfully grown in a partly shaded, damp, peaty bog.

W. IRVING.

GARDENING OF THE WEEK.

FLOWER GARDEN.

HERBACEOUS plants which have to be protected during the winter with a covering of ashes or some similar material round their crowns should now have this protection removed. It is unwise to dig ashes into the borders, far better take them right away, as they are impoverishing in all cases, and almost poisonous to some plants when their roots come into contact with them.

REPLANTING TRITOMAS.

This is an excellent time in which to divide and replant these. Even if there is no need to part them for actual increase of stock, it should be done every three or four years, so that the clumps may be relieved of some of the weaker growths which help to choke the stronger flowering crowns. In very rich soil they will go on for many years without disturbance, but this is not the case unless special preparation has been given. When the plants are lifted take the opportunity of thoroughly enriching the soil by digging in plenty of well-mellowed manure, and increase the depth of good soil if possible. Plant with the crowns well below the surface level, this in itself being a great protection in sharp winters, and do not heap the soil round them higher than the surrounding level, for they enjoy all the moisture they can get. It is far better to form the soil into a kind of basin round the plants than to have it on a mound.

PAMPAS GRASS.

This is also the best time to move, divide, or replant Pampas Grass. It, too, has a habit of becoming congested, and from the saw-like nature of its blades it is difficult to keep it free from perennial weeds. Roots of the large-flowered white *Convolvulus* become incorporated in the clumps and strangle the growth, and nothing short of lifting the clumps, and tracing out the roots of the weed is of any avail. When the Pampas is moved at this time of the year it takes no harm whatever, though at any other season it will scarcely re-establish itself. Clumps too big to lift, and which have got into bad condition, may be, to a certain extent, rejuvenated by setting fire to the whole mass and burning it to the ground. Strong growths will soon push up again, and these will throw up better plumes.

IVY.

Ivy growing on walls should be clipped every year, cutting away all leaves and projecting growths. When treated in this way it looks rather shabby for a week or two, but new growth soon appears, and the fresh crop of leaves will be all the better for the relief, and room obtained for them. This annual clipping is also a means of assisting the clinging aerial roots, for it relieves them of much weight, and walls are not so likely to be stripped in high winds. Early in April is the best time for clipping Ivy.

EVERGREEN SHRUBS.

The very best time for planting evergreen shrubs for garden ornament is now. Some object to spring planting on the plea that the shrubs take more water during the summer, but even if they do so they certainly grow away more freely under good attention when planted, while the roots are active. This is especially the case with Hollies, quite big bushes of which may be planted now without



GENTIANA ORNATA IN THE HIMALAYAS.

harm if they are well looked after during the summer.

GLADIOLUS AND HYACINTHUS CANDICANS.

Bulbs of these may now be planted among herbaceous plants or elsewhere wherever they will make a good autumn display. Plant the bulbs 4 inches deep, putting under each a little sand, except where the soil is naturally sandy, as this assists the young roots to develop and strengthen before entering the heavier soil. I can strongly recommend the stronger varieties of Gladiolus to all intending planters, the plants being generally healthy and the flowers fine. J. C. TALLACK.

Shipley Hall Gardens, Derby.

KITCHEN GARDEN.

BEET.

IN order to have a supply of Beet for salad in early summer, a sowing should be made at once in a sheltered part of the garden where the soil is light and rich. The Egyptian Turnip rooted is an excellent variety for this purpose, coming into use early, and is of fine quality. Sow thinly in rows 1 foot apart and cover lightly with fine soil. As soon as the plants are large enough, they may be thinned to 6 inches from plant to plant, and the soil between the rows frequently stirred with a hoe to keep the crop free from weeds and hasten their development, so that young Beet may be ready for use before last year's crop is quite used up. The general sowing of Beet may be made early in the month of May if the weather is favourable, but excellent crops may be had from sowings made as late as June. The soil should be trenched or deeply dug and well broken with the digging fork, so that no hard lumps may come in contact with the roots in their downward course; the rows may be 16 inches apart for this sowing, and the young plants be thinned to 9 inches between the plants as soon as they are large enough. Varieties that produce even-sized roots of good colour are Blood-red and Pragnell's Exhibition. Last season's roots in store should have frequent attention to remove young growth, and cover closely to keep the air from drying them, so that they may be preserved until the young roots are fit for use.

SEAKALE

roots laid in the ground in early winter will now be ready for planting, and should be attended to as early in the month as possible. If the ground on which they are to be grown was trenched early in the season, no further preparation will be necessary beyond a deep stirring with the digging fork. It is of great importance that the soil should be of an open nature, not only for the production of this season's crop, but in order that the young roots which are to form the foundation of next season's crop may be as large and clean as possible. The cuttings may be planted in rows 2 feet apart and 1 foot from plant to plant, with an ordinary dibber, covering the root to the depth of 2 inches. If the latest batch is to be grown in the beds, they should be covered up as soon as the crowns are seen to be moving. Eight inches of leaf-mould will make an excellent covering for the crop, and after the Kale has been cut the tops of the crowns may be cut off with an ordinary spade to the depth of 2 inches and left in their present quarters, where they will make good crowns for forcing next season.

SOWING VEGETABLE SEEDS.

Celery sown early will now require pricking off singly into 3-inch pots, where they may be allowed to remain until planting out early in May. The young plants must be kept close for a few days after removal from the seed pan and never allowed to become dry, which is, in my opinion, the most fertile cause of their running to seed. Leeks and Onions will also require attention. The seedlings may be pricked off into small pots and treated in the same way until ready for planting out in May. Mushroom beds should be made up to produce a supply in June and July. The best place for these beds is an open shed with a northern aspect, the front of which can be covered up with mats to prevent evaporation. The depth of the bed in open sheds at this season should be 15 inches, so

that it may retain the heat a sufficient time to allow the spawn to run. Cover up with straw as soon as the soil has been placed on the surface of the bed, so that the natural heat may be retained as long as possible. Collect further quantities of horse manure so that beds may be made up behind a north wall to supply a few buttons during the very hot weather generally experienced by the end of July and August. JOHN DUNN.

Royal Kitchen Gardens, Windsor.

INDOOR GARDEN.

BEGONIA GLOIRE DE LORRAINE.

THE main batch of this popular plant now rooted should be put singly into small pots. It is surprising how soon this Begonia, in common with other varieties, becomes a plant when pushed on in its earlier stages. A loose fine soil must here be used, and drainage corresponding to the size of the pot added; the soil must not, however, be pressed too firmly about the roots, and assuming the soil to be neither too wet nor too dry, water at the root is not advised just for a few days; the pots should, however, be stood in a propagating case for at least a fortnight until root action is fairly established, when they may be taken to a position near the glass where shading can be supplied, but a brisk stove temperature must still be kept up. B. Gloire de Sceaux will require similar treatment, as also will the ornamental-foliaged varieties, though here of course a slightly rougher mixture may be used in potting, and the advantages of close quarters, while of considerable benefit to all young stock, is here not quite so necessary, 3-inch pots for the smaller stock and 4½-inch for the larger ones will be the two sizes most suitable.

TUBEROUS SECTION.

Spring-sown seedlings at present in pans and boxes should again be in a condition to be dealt with. I find it a good plan to adopt to shift the young seedlings as they require the increased room until it is safe to place them in a cold frame, or, better still, a frame with a hot-water pipe in it; a bed can here be made up, the stock planted out, and thus grown throughout the season until the flowering season comes round, when the worst may be weeded out and thus allow far more room to the better ones, for no matter how carefully the seed may be saved there are bound to be forms appear which in the present day are by no means satisfactory. The Begonia being an accommodating subject can be put into a pot at any time during the season so long as care is taken to lift the roots with a certain amount of soil adhering.

AMARYLLIS.

Presuming the spike to be well advanced and the foliage stout, the proper feeding of these subjects should be taken in hand. Farmyard liquid is the best where this can be obtained; failing this some cow manure soaked for twenty-four hours, with a dash of soot added, makes a very safe and efficacious stimulant; secure any foliage which may have become loose, and make the approaching display as attractive as possible.

GLOXINIAS.

The earliest sown batch will have, under favourable conditions, made sufficient headway to permit of their being potted singly; 2½-inch pots are the kind recommended, and soil of a light porous character must be used; little water will also be necessary, but a humid, somewhat close, atmosphere is advised. Older plants will require more individual room as they develop; stand the plants quite clear of each other, so that the syringe may be allowed to work amongst the leaves. J. F. McLEOD.

Dorset House Gardens, Roehampton.

FRUIT GARDEN.

EARLY MELONS.

If sown as advised some six weeks ago, the plants will now be making good progress. To secure an early set it is advisable to take the first fruits that form, and if the lateral growths have not been stopped it is well to do this. We find with very

early plants it is advisable to plant somewhat closer, and get, say, two or three fruits, the first that show, rather than wait longer to secure more. As most growers are aware, if a single fruit is set this takes the lead, with the result that later fruits are useless. This shows the importance of setting several fruits as nearly as possible at the same time. A temperature of 70° to 75° by day must be maintained, allowing the thermometer to run up freely by sun heat. During the flowering period the plants should be kept a little drier, the house also, and as soon as sufficient fruits are secured give weak liquid manure occasionally in a tepid state; maintain a moist atmosphere, close the house early, and ventilate carefully in cold weather, the night temperature being 10° lower than by day. Stop the growths one or two joints beyond the fruit and top-dress with good loam and some bone-meal.

MELONS IN FRAMES OR PITS.

The culture of Melons at the present day is less difficult than formerly, as with modern glass erections more regular temperatures can be maintained and much better results secured. On the other hand, even now various shifts have to be made, and my advice more concerns those who have not the best advantages, and now is a good time to sow for summer fruiting. All cannot give bottom heat, but though helpful, it is not essential if care is taken in watering and only enough soil given to start the plants. Many good Melons have been grown in ordinary manure frames, that is, frames placed on large heaps of prepared manure, but grown thus, and especially early in the season, it is necessary to keep up the linings with freshly-added manure to maintain sufficient warmth. I will not dwell at length on the latter mode of culture, as many can grow in pits or heated frames, and here two crops in a season may be secured; but it often happens that the frames or pit can only be spared for at times, say, from May to the end of August or early in September, and now is a good time to sow for frame or pit culture. Sow two seeds in small pots, place in a warm temperature, and as soon as the plants are through the soil give tepid water when required, and thin to the strongest plant and grow near the light in a temperature of 70°. Prepare the bed at the same time and the soil will then be in condition for planting. If only frame culture can be given, strong plants should be grown, and planting out in May will be quite early enough.

FORCED STRAWBERRIES.

April and May are the best months for forced Strawberries, and much better results are obtained when the plants are given what is termed slow treatment at first. As is well known, the Strawberry grown naturally flowers in a low temperature, and this must be borne in mind. Too much heat in the early stages causes many failures. The temperature given for vines just starting suits Strawberries; grown thus the flower trusses are much stronger. Give ample moisture by damping overhead with tepid water. G. WYTHES.

Nylon House Gardens, Brentford.

HARDY FRUITS IN SEASON.

THE list of the best varieties of late Pears in season from Christmas to Easter has now been practically exhausted. After Easter I am afraid it is hopeless to look for Pears of good quality being grown and preserved in this country, at any rate under the old system of preservation. What the new system of cold storage may effect in prolonging the season in which the Pear may be had in condition for dessert remains to be seen. The principle of lengthening the time in which it is possible to keep ripe fruit from decay by subjecting it to a low temperature by artificial appliances has been successfully demonstrated by those interested in the importation of foreign fruit into this country, but this is no new discovery. The same principle has been applied on a limited scale by resourceful gardeners for at

least thirty years to my knowledge. To meet certain emergencies in this way of garden parties and other festive functions, on which occasions it is imperative that a liberal supply of the choicest and best of fruit must be had in variety and abundance, I have often had recourse to the friendly assistance of ice wells. By placing the following soft and perishable fruits—Peaches, Nectarines, Melons, Figs, Strawberries, and Pines—in boxes on the bare ice, where the temperature in summer would range from 35° to 40°, I have succeeded in keeping them, as regards appearances, in perfect condition for upwards of a fortnight longer than could possibly have been done in the usual way in the ordinary fruit room. On those occasions fruit, apart from its value as a dessert, is largely called into requisition in virtue of its decorative importance in the arrangement of the dining table.

As regards this latter attribute, I must say that the ice well proved to be an excellent friend in need, for it would have been impossible to have had the abundant supply provided without its aid on certain occasions.

shown what can be done in this way in preserving Apples by their wonderful exhibit of perfectly preserved fruit in great variety on several occasions at the Temple show towards the end of May. Messrs. Veitch and Bunyard have built their cool fruit rooms above ground and encased them with a thick covering of Heather. Here we had a cool fruit room built underneath our Pear room two years ago, and it has answered admirably. The temperature never falls below 40° in the coldest and seldom rises above 60° in the hottest weather, thereby securing such an equable temperature and freedom from evaporation as would be impossible in an ordinary fruit room.

Before closing my list of winter dessert Pears I would mention two more which I think are worth growing. One is President Barrabé. This is a medium-sized Pear, of splendid flavour, succeeding well as a bush or pyramid. The other is Zéphirin Grégoire, which bears freely as a pyramid, and is best grown on the Quince stock. It has a rich and highly aromatic flavour. Vicar of Winkfield

says that Hong Kong is not likely to be without it for many years to come. It is not a native, but an introduction; nevertheless, from the persistency with which it forces itself upon one's attention, in spite of the continuous rebuffs and harassing treatment it receives, one is almost forced to the conclusion that it is the legitimate owner of the soil. Having a bulbous rhizome it is a most difficult subject to deal with, and the rapidity with which it propagates itself by division is amazing. It is particularly fond of a rich soil, but if it cannot get that it will put up with any other kind and accommodate itself to circumstances. It is a native of the Mascarene Islands, but is now naturalised in many tropical countries. It is a pity it did not stay at home, as it was certainly not wanted in Hong Kong.

Kyllingia monocephala.—This plant is another troublesome garden weed, but, having a creeping rhizome, it is more easily dealt with than the Oxalis. It is a genuine native, but widely diffused over the tropics. It also thrives best in a rich soil, but in a poor one it does far too well to suit people who have gardens. It belongs to the natural order Cyperaceæ.

Lantana Camara.—Waste lands are soon overrun by this species of Lantana. It is a very pretty thing in flower, which means that it is always pretty, as it is in flower from one year's end to another. The colour of the flower varies from pure white to deep red. It seeds freely, and in this way propagates rapidly. Like the Oxalis, it is not a native of Hong Kong but of tropical America.

Ageratum conyzoides.—While the Lantana confines itself principally to low levels, this plant abounds from the sea up 1,600 feet or 1,700 feet. It especially delights in making its home on rubbish heaps and suchlike places. It grows about 2 feet high, and is an annual, although at first it looks as if it were a perennial, as there is always any quantity of it in flower. It is grown for summer bedding at home, but rigidly excluded from gardens here. Tropical America is its home.

Stechnanthus indica is not mentioned in Hance's Supplement (to the Flora Hong Kongensis), published in 1872, yet it is so extremely common now that it would be one of the first plants a collector would come across. It is found abundantly on roadsides and other waste places, and grows about 3 feet high. The flowers are produced in terminal spikes several inches long, and, although the individual flowers are small, many of them together make a good show. There are three varieties, one with dark blue flowers and wrinkled leaves, a second with light blue flowers and smooth leaves, and a third with white flowers. The dark blue variety is by far the most common, and the light blue one next, whilst the white variety is extremely rare.

Elephantopus scaber is a very troublesome weed on lawns and grass banks unless kept under control, and may be likened to the Daisy in this respect. Its leaves are mostly radical, arranged in the form of a rosette, and from 2 inches to 4 inches long. The root stock is thick, and, as it is a perennial, care has to be taken that none of it is left behind when the process of weeding is going on. It seeds freely, and, like all such weeds, should be dealt with before coming into flower.

Mimosa pudica (the Sensitive Plant) Hance does not mention in his Supplement, and as it is now one of the commonest plants to be met with on waste places, it shows how rapidly some plants propagate when they meet with a suitable environment. Commonly known as the Sensitive Plant, it is always a



PEAR EASTER BEURRE. (Half natural size.)

But at what a sacrifice as regarded quality and flavour! Both had practically disappeared as if in silent protest against the wanton presumption of man in interfering with the laws of Nature. Natural decay can be arrested in this way for a time, no doubt, and as far as the process assists in helping to supply the myriads of our working population with a greater abundance and variety of fruit, even without its natural quality and flavour (as long as it is wholesome), the practice may be acclaimed a boon and a benefit, but in no other respect. It is a sacrilege to apply the principle to the best of English-grown fruit.

It is different as regards specially built cool fruit rooms. It is not the extreme cold here which is called into requisition to retard maturity, but rather the arresting of evaporation by the equability of the temperature for a long period of time, say, from the time the fruit is gathered until it is ripe. I am of opinion that much may be done on this principle. Indeed, this has already been demonstrated by Messrs. Veitch, Bunyard, and Crump. Messrs. Bunyard especially have

stands first in my opinion as a stewing Pear, and in a favourable season it is not to be despised for dessert. This is certainly one of the most prolific Pears we have; the tree succeeds best on the Quince, and the fruit may be had in season from November to March. Easter Beurre, although a good dessert Pear, is also excellent for stewing, and for this purpose is much liked here.

Windsor.

OWEN THOMAS.

HONG KONG WEEDS.

WEEDS are just as troublesome in tropical countries as they are in more temperate ones; in fact, I think it would be more correct to say that they are more troublesome, as they grow much more quickly in the tropics than elsewhere.

Oxalis martiana is an exceedingly obnoxious one. It is included in the list of tender exotic plants grown at Kew, and if that establishment should run out of it at any time (which I do not think is likely) I can safely

source of interest to people at home. When I was at Kew it was a plant more often asked for by visitors than any other, except, of course, when the *Daily Mail* or some other London newspaper had been given a description of some plant quite unknown to science. If it is a plant still enquired for there, I would suggest that the present Kewites should recommend the questioners to come to Hong Kong, where they would be allowed to take home as many plants of it as they could possibly wish for. A big mass of it in flower looks very pretty, but is not to be desired near a garden.

W. J. TUTCHER.

Botanic Gardens, Hong Kong.

EDITORS' TABLE.

CALLA LITTLE GEM.

THERE appears to be some difficulty in the successful cultivation of this charming little greenhouse plant. This is unfortunate, for to my mind it is far better for cutting than the older form, *Calla aethiopica*. It adapts itself admirably for arranging in all kinds of vases, and few things can surpass it for wreath making, &c. One distinct advantage is, that it is a much purer white than any other form I am acquainted with. Ever since this was first introduced we have grown it largely. When properly treated it will flower over a long season, ranging from Christmas to the end of April. It is naturally a weak grower, and therefore requires more liberal treatment than the commoner varieties. It is very persistent in throwing up offsets, which should be removed as they appear. Immediately the plants have done flowering they should be rested for about two months, after which they should be thoroughly shaken out, and the strongest crowns potted singly into 4½-inch pots, in which they should flower and start into growth at once, a cold frame suiting them admirably. The weaker pieces should be potted into 3-inch pots, and if gently brought along will produce pretty little spathes about March. A suitable compost will consist of three parts good fibrous loam, one part thoroughly decayed leaf-soil, adding a little finely broken charcoal and some coarse silver sand. About the first week in October the plants should be introduced to a greenhouse temperature, when they should be resurfaced with fibrous loam and

decayed cow manure in equal proportions. A shelf near the glass will suit them to perfection. They should be kept thoroughly well supplied with water, as everyone knows the *Calla* is a moisture-loving plant, and every third watering a dose of liquid manure should be given. The plants will force quite readily, and may easily be had in flower by midwinter. If placed near the glass they will grow strongly and flower profusely in a temperature from 60° to 65°. The great secret of success is strong crowns, the pots thoroughly filled with roots, and, as before stated, the suckers taken away as fast as they appear. Green fly have a particular liking for *Callas*, but of course can easily be kept at bay with the well-known remedies. I am sending a few blooms for your table to bear out my remarks.

E. BECKETT

Aldenham House Gardens, Elstree, Herts.

[Very charming flowers, quite white, and most useful for cutting.—EDS.]

NURSERY GARDENS.

PRIMULA STELLATA (STAR PRIMULAS) AT WEM.

THE veteran Henry Eckford, of Wem, is finding that old age brings no abatement of that strong desire he has exhibited during the past half century to improve the flowers he cultivates as especial favourites. A contemporary and life-long friend of the venerable *Dahlia* raiser—William Dodds, recently deceased at a very advanced age—was at work growing and improving the *Dahlia* in the early fifties, and for years after. He also took in hand the zonal and nosegay types of *Pelargonium* at a time when they were becoming increasingly popular, and did good work with them. Then, when the late Charles J. Perry ceased to be the foremost *Verbena* raiser of the day, Mr. Eckford made *Colehill* famous for the fine varieties he raised and distributed. On becoming gardener at Sandywell Park, Cheltenham, the residence of the late Dr. Sankey, who fifty years ago was raising *Verbenas* at Hanwell, Middlesex, he continued his labours as an improver of various florists' flowers, and on removing with Dr. Sankey to Boreatton, Salop, he commenced the great work of his life—that of improving the Sweet Pea, and the culinary type also. Eckford

and his Sweet Peas are known in all lands where their cultivation can be carried on. At Wem, Salop, where he has been in business for several years, he has added considerably to the list of varieties of Sweet Peas, and lately he has been turning his attention to the Chinese Primrose, and especially to that section known as the Star Primulas.

The illustration which accompanies this shows one side of a house occupied by some 200 plants, principally in 4½-inch pots, every one of them a large pyramid of striking flowers. The fact that the plants stand close together on the stage prevents the individuality of each from being displayed, and also their true pyramidal habit and wonderful floriferousness. Two characteristics strike the beholder, one is the fine form and stoutness of the smooth-edged corollas, and the richness of the rosy and rosy magenta tints found among them, while there is also to be noted a considerable range of colours from pure white to the deep crimson of the old Chiswick red. Novelty of colour is certainly one of the features of this strain, and Mr. Eckford is not without hope that he is on the way to new shades of blue—better shades of this colour than are seen in the large-flowered, fringed type. There are several with small semi-double and fully double flowers, and Mr. Eckford is of opinion these will produce fertile seeds. One double form comes very near to the old infertile double white, but with a possibility of producing seeds. What excellent table and room plants these Star Primulas make, with their symmetrical pyramids of blossom! Mr. Eckford has cross-bred to some purpose, and he can be congratulated upon having taken a strong lead in developing the possibilities of *Primula stellata*.

Equally successful has Mr. Eckford been in cross-fertilising the more advanced types of the Chinese Primrose, and some of the pink, rose, and salmon shades are very attractive.

In the open ground the Sweet Peas sown in November for early blooms are already through the soil, and the visitor notices that Mr. Eckford sows much more thinly in the lines than is usually the case. The thinly sown seeds produce plants of a much greater branching habit than those sown thickly. And of the selected seedlings of last year, something like a thousand trials have recently been sown. It will presently prove a formidable task to go through these and select the few that show advances in some particulars for naming. A visit to Wem in August next will amply repay the trouble of a long journey. The possibilities of the development of Sweet Peas in new and novel directions as a result of intelligent cross-fertilisation appear illimitable.

R. DEAN.

NEW AND RARE PLANTS.

HÆMANTHUS QUEEN ALEXANDRA.

A CHARMING addition to this race, the colour from full salmon-pink to pale pink, the segments broad and well formed. From M. L. Linden, Brussels.

TULIPA KOROLKOWI BICOLOR.

A LOVELY little species from Turkestan, the buds of a yellow and buff tone, and the flowers when expanded exhibiting a blotch of true scarlet on each segment. This charming novelty came from Messrs. Wallace and Co., Colchester. Award of merit, R.H.S.

PRIMULA MEGASÆFOLIA.

AN entirely new and quite distinct species from the Himalayas at very considerable elevation. The foliage is shaped somewhat after the *P. costusoides* section, but widely different from this in the bronzy tone that suffuses it. The colour is best described as a warm rose-lilac, the same being rendered conspicuous by the orange-coloured corona, the same shade extending to the throat. The species is evidently very free, as a succession of spikes were showing on the plants exhibited. It is quite an acquisition to the Primrose group. From Miss Willmott, Warley Place. Award of merit, R.H.S.



PRIMULA STELLATA (STAR PRIMULAS) AT WEM.

THE GARDEN.

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KEW IN SPRING TIME.

IN April the Royal Gardens assume their spring robes, and with mild and sunny days, bed, border, and woodland will show a thousand flowers dancing in the breeze. No season of the year is more enjoyable at Kew than the time of the Daffodil and Scilla, and of late years flower gardening in the grass there has extended in the right way, with a true appreciation of the things suitable for the purpose.

A sweet sense of repose steals over one immediately the principal gate is entered from the quaint Kew Green, with its pleasant reminiscences of royal days, perpetuated still in Cambridge Lodge by the church, and no matter whether the path in front of the visitor is followed to lead to the principal walk and the pond, or a sharp turn is taken to the left, flowers are scattered everywhere, in the grass and in the formal bed, by the shrubbery margin and plant house border.

The air is loaded with the fragrance of flowers, and yet this is a botanic garden, where a few years ago botanical science was made to frighten the seeker after knowledge by its ugly manifestation, a garden of big labels and rigid rows, and spotty planting. But the director is a botanist and gardener too. With his assistants he has gradually transformed the gardens into a place where it is possible to ensure thorough enjoyment without irritation from harsh ways of planting. This year the season has been unkind. Cold winds and sharp frosts have bidden the flowers keep within their calyces, and at the time of writing only the early Daffodils are open on the Cumberland Mound, but throughout March Chionodoxas, Scillas, Snowdrops, and Crocuses made masses of colour.

When the opening buds proclaim the birth of spring, Kew is indeed a pleasant place in which to hide from the world outside; the birds sing blithely in the shrubberies and tree tops, the water-fowl call shrilly across pond and lake, and some splash of colour, maybe from bed of Daffodil or early Tulip, breaks in upon a sea of tender green. It is the joyous time of spring, and the gardens are never clothed in sweeter dress than at this season, when in woodland, rock garden, and border a thousand expanding flowers tell of the winter that is past. In the wilderness or woodland flowers are permitted to roam in their own way, without any of the conventional restrictions of modern gardening.

Those who wish to enjoy flowers in the grass on their own estates will gain much information from Kew during the late April days and through the month of May. When entering the gardens from the village green entrance, a beautiful stretch of blossom amongst the grass is at once seen, flowers dappling the surface as if in their high mountain meadows, naturally placed and happily unlike the crowded mixtures in many parks and private domains. Wild gardening is not the flower bed or border gone mad; it is a simple and beautiful phase of natural planting, copying the ways of Nature herself, who paints the brookside with Marsh Marigolds, and dapples the mead with Cowslips.

Well we remember some late April days spent in a Sussex garden where grass gardening has found true expression. Blue Wind-flowers formed sweet artless groups near the trees, and away in the meadows were clouds of Narcissi, Star, Poet's, and others, thinly planted, and through becoming naturalised, forming themselves into quite simple groups, winding maybe through some lowland stretch, and gleaming silvery white in the clear spring evening. This, of course, is away in the pure country air, but in this botanic garden, in which gardening is taught by the flowers lavishly bestrewn over the grounds, many good effects are the result of the grass gardening. Kew, it must be remembered, is as flat as the proverbial pancake, and does not provide the same opportunities as hillside meadows and lowlands. Masses of the Poet's Narcissus are spread over the wilderness, thousands of white flowers beautifying the fringe of woodland, and collected around groups of trees, sometimes the Chili Pine or monkey puzzle for the sake of the rich contrast in colour, or the Campanelle makes sheets of rich yellow, while on the grassy mound near the Cumberland Gate flowers are seen covering the sides from the time of the Snowdrop until the Japan Primrose and true flowers of summer open out in the shade of trees at the foot.

When the time of Bluebells is with us, it is worth a journey of many miles to travel to Kew and stroll through the grounds surrounding the Queen's Cottage, which her late Majesty graciously allowed to form part of the old gardens. This is a sanctuary of bird and flower life, and may it for all ages preserve its wild and natural beauty. A path winds through the secluded woodland, and when the Bluebells are in blossom a vision of flowers is revealed within a few miles of the metropolis—a woodland surfaced with blue. The writer will ever remember a May afternoon last year. The

sun glinted through the trees, scoring the flowers with light, and the misty covering of softest blue faded away in the distance, where woodland meets the open greenwood path beyond the new enclosure. This is a spot to escape from the surrounding suburbs, a translation from the town to the sweetness of a secluded country, where one may enjoy sylvan scenes and flower-scented paths.

Kew is a beautiful garden, we repeat, not at one season, but at all times.

OWN ROOT ROSES.

AN absence of two months will, I trust, be sufficient excuse for this belated reply to a courteous request for more information about own root Roses appearing in *THE GARDEN* of February 9, as I have only now read the article in question, also that subsequently written by Mr. E. Mawley and appearing in the issue of March 9.

If, as Mr. Mawley thinks, the writer of the article on page 89 does make a somewhat feeble presentation of his case, this may possibly arise from lack of actual experience, but I am afraid Mr. Mawley, as so many others, regards growing own root Roses as a fad.

A point I wish to emphasise, and upon which further experimenting has taught me more since last I wrote on the subject, is that one must adapt culture to the altered character of the plant. An own root Rose does not require a soil such as is absolutely essential for successful Rose growth upon Briar roots, more especially is this true of the Tea and Monthly Roses, and it is this attempting to grow own root Roses in an adverse medium with the slow resultant growth that has given rise to the belief they are hard to establish and slow growing. My recent experience is in conjunction with and confirmatory of this. I have been experimenting with Tea Roses in a garden where every winter the temperature falls to 12° below zero. Some varieties of Tea Roses desired could only be secured by importing plants from Europe, and these were budded low on the Briar. Now, we could not if we would provide such a soil as the Briar needs, and the sequel proved most instructive. These budded plants, varieties such as Hon. Edith Gifford, Mme. Lambard, Anna Olivier, Marie d'Orleans, Etoile de Lyon, G. Nabonnand, &c., flowered well in June before the days of extreme heat, but later, in spite of mulching and watering, when the ground became thoroughly heated, they made a stunted mildewed growth and gave no autumnal bloom worthy of mention. It was my intention from the first to raise from these own root plants as soon as possible, and now we have them as well.

For the past two summers we have had a striking object-lesson, the own root plants growing healthily and flowering freely from June to November, in a light hot soil that is

paralysing to the same Roses upon Briar roots. A protection of Oak leaves suffices for such plants, even in our severe winters, and if we cut them to within 2 inches of the ground each spring they are like a strong perennial, vigorous in subsequent growth and profuse in continuous bloom.

This only confirms on a larger scale what I had before observed and wrote upon in English experience. A few weeks back in your county of Sussex I saw some of the largest plants of Mme. Hoste and other Tea Roses growing in a 3 feet wide border along the open portion of a railway station platform, and I know the life history of those plants, having given the cuttings to the station-master, who is the proud possessor of them, about ten years ago. In a garden a little more than a mile away are the plants from which the cuttings were taken. They are upon Briar roots, and only one-half the size. Few rosarians would have attempted Rose culture in the ridge of loose light soil where our amateur friend had achieved such marked success. Mr. Mawley reiterates once more the supposed "slow process" and the presumed "awful mortality" that attends the raising of own root Roses. Both statements are contrary to my experience. I can go into a Rose propagating house near at hand to-day and see 50,000 Rose cuttings, of which 90 per cent. are rooted and ready to pot.

Moreover, if you put in a Rose cutting simultaneously with your Briar cutting or seed that is to be worked when strong enough, and that surely is a fair starting basis, you have a Rose plant before your Briar is ready to be budded.

The plea of Mr. Mawley that budding is essential because most of the varieties now existing will be out of date a decade hence, stands refuted in every good Rose garden, as he must admit after examining the dates of introduction of one-half of the best Roses in gardens to-day.

We may tolerate budding as a necessary means for the rapid increase for distribution of a new Rose. It will be practised by the exhibitor who attains his object from the concentrated energy of established roots upon one or two individual buds. The Rose for the million, however, that will grow and live long in ordinary good garden soil, is the plant upon its own roots.

It may safely be asserted that more Roses have succumbed to the stocks they were worked upon than from all other causes combined.

A. HERRINGTON.

Madison, New Jersey, U.S.A.

EDITORS' TABLE.

BEGONIA CALEDONIA.

Mr. John Forbes, Hawick, N.B., sends flowers of this beautiful Begonia Caledonia, which with other kinds was shown so finely by him at the recent exhibition at Edinburgh. The flowers are very pure and produced quite freely, so much so that the entire plant is hidden beneath the snowy covering. It is a sport from Gloire de Lorraine, and has all the attributes of the parent, but distinct from it by reason of the flower colouring.

Mr. Burbidge sends some interesting flowers from the Botanic Gardens, Trinity College, Dublin, viz. :—

CLEMATIS CALYCINA

of Southern Europe, the species much like and so often confounded with the North African *C. cirrhosa*. *C. cirrhosa* is the better plant of the two, but *C. calycina* is a good deal hardier, and therefore more suitable for our gardens, though only likely to do well on the south coast and other favoured spots. Mr. Burbidge says of it: "Its

bronzy leaves and soft yellowish bells, and silvery green, young Hazel Nut-like buds are very pretty dangling and swinging in the east winds of March. A handful of its flowering sprays in an old bronze Japanese pot look very pretty and last some time."

BOMAREA PATACOCENSIS,

a climbing Alströméria from South America, bears fifty flowers or more like small *Lapagerias* in size and shape on stems 10 feet to 15 feet long, very handsome.

[The flowers sent are beautiful; like small scarlet *Lapagerias*.—Eds.]

MISTLETOE

in flower, both sexes, and a few ripe berries that can be smeared on young, fresh bark of Apple, Lime, or flowering Crab trees. A bit of black muslin over them will prevent birds pecking them off; they are sure to grow, and stick very fast of themselves to the bark as the slimy viscosity dries.

Mr. Burbidge also sends a very interesting specimen of the paper-like bark of the

BETULA UTILIS

of North India and Thibet. The specimen sent is a sheet about 8 inches by 6 inches, written on with pen and ink just like paper.

CARNATION SPORT FROM LADY ARDILAUN.

Mr. H. W. Weguelin, Dawlish, Devon, sends flowers of a new seedling from Lady Ardilaun, the first of a batch of twelve or fifteen that has flowered. Seeds were sown in the beginning of last year. The plants have been out of doors all the winter, and have this spring been taken up and potted into 9-inch pots, and are now beginning to flower in a cold house. They are all exceptionally strong, have heavy blue-green foliage of the Malmaison class, and if they all give flowers as large and as good as those sent herewith will be grand additions to the fancy class of outdoor Carnations.

[A beautiful flower, compact, does not split—at least, the blooms sent were intact—and the colouring is fresh and distinct, buff, dashed with a reddish shade.—Eds.]

From Mr. Wilson come some of the famous

WISLEY BLUE PRIMROSES,

among the paler ones some of the bluest we have seen.

DENDROBIUM KINGIANUM.

Mr. Greenwood Pim sends a flower raceme of a small and rather rare Orchid, *Dendrobium kingianum*, an Australian species. The plant is bearing six racemes in a 4-inch pot.

CARNATION SEEDLINGS.

We have received flowers of two excellent seedlings from Mr. Lindsay Bury, Wilcot Manor, Pewsey, Wilts. One is a full crimson with broad florets, while the other is a fancy variety, yellow ground, cut into with reddish colouring. Mr. Bury writes: "Both are from seedlings raised here as outdoor varieties. Both have a very strong habit and foliage, almost like Malmaisons. The stems are stiff, and support the rather heavy flowers well."

[We advise our correspondent to send some flowers to a specialist.—Eds.]

NEW AND RARE PLANTS.

LÆLIA JONGHEANA ASHWORTHÆ.

This is a beautiful white variety of *Lælia Jongheana*. The sepals and petals are pure white and the throat is of a rich yellow colour, the edge of the fringed lip being white. Exhibited by E. Ashworth, Esq., Harefield Hall, Wilmslow. First-class certificate.

CATTLEYA MISS HARRIS VAR.

E. ASHWORTH.

This lovely *Cattleya* is the result of a cross between *C. schilleriana* and *C. Mossiae*. The flower is of exquisite colouring. The sepals and petals are very

deep rose-lilac, the spreading lip being marked with rich purple; the throat is lined with orange-red. Exhibited by E. Ashworth, Esq., Harefield Hall, Wilmslow. First-class certificate.

MILTONIA VEXILLARIA GIGANTEA ROSSLYN VAR.

ONE of the best varieties of this *Miltonia* that we yet have seen. The colour is exceedingly fine, a rich deep rosy crimson, except for the yellow and white centre. The flowers are also large, and the plant exhibited had two racemes bearing in all thirteen flowers. Exhibited by H. T. Pitt, Esq., Stamford Hill (gardener, Mr. F. W. Thurgood). Award of merit.

EPIDENDRUM CLARISSA SUPERBUM.

A FLOWER of exquisite colouring, and the result of a cross between *E. × elegantulum* and *E. Wallisii*. The petals and sepals are blotched with dark red upon a yellow ground, shaded with pale crimson; the lip is of a rich purple. This plant is an improved form of *E. clarissa*, often shown by Messrs. Veitch. *E. clarissa* is the last of a series of hybrids, particulars of which are given in our report. Exhibited by Messrs. James Veitch and Sons, Limited, Royal Exotic Nurseries, Chelsea. First-class certificate.

MASDEVALLIA ALCESTE.

MESSRS. JAMES VEITCH AND SONS, LIMITED, Chelsea, exhibited this secondary hybrid *Masdevallia*, obtained by intercrossing *M. veitchiana* and *M. × Asmodia*, the first-mentioned being the pollen parent. The flower is of a deep orange ground, shaded with crimson-purple. Award of merit.

NEW HIPPEASTRUMS.

THE following obtained awards of merit :—

Hippeastrum Rialto.—A flower of enormous size and proportions generally, and of an intense deep crimson shade. From Messrs. James Veitch and Sons, Limited.

Hippeastrum avertensis.—This is a flower of fine form, of a scarlet shade, with lines of white. From Messrs. James Veitch and Sons, Limited.

Hippeastrum Marathon.—An intense crimson-maroon, darker than *Rialto*, and of a more solid appearance. From Messrs. James Veitch and Sons, Limited.

ODONTOGLOSSUM DENISONIA NEBULA.

THIS is a beautiful form of *O. Denisonia*, a supposed natural hybrid between *O. crispum* and *O. andersonianum*. The sepals and petals are long and tapering, the petals prettily notched, while both sepals and petals have cloud-like patches of light red dots of varying size. Exhibited by De Barri Crawshay, Esq., Rosefield, Sevenoaks (gardener, Mr. W. J. Stables). Award of merit.

ODONTOGLOSSUM ADRIANÆ MRS. SIMONDS.

THIS novelty is of a pale lemon yellow throughout the sepals, petals, and lip. The sepals and petals are practically without spots at all; the lip is slightly spotted. Exhibited by H. F. Simonds, Esq., Woodthorpe, Beckenham (gardener, Mr. George Day). Award of merit.

ODONTOGLOSSUM TRIUMPHANS MRS. CRAWSHAY.

A SPLENDID variety of *O. triumphans*, differing much from the type. The ground colour of the sepals and petals is pale orange-yellow, each sepal having a well defined bar of chocolate-red across about two-thirds from its base. The petals are lightly blotched with almost the same colour. Exhibited by De Barri Crawshay, Esq., Rosefield, Sevenoaks (gardener, Mr. W. J. Stables). Award of merit.

ODONTOGLOSSUM RUCKERIANUM MRS. BROOMAN WHITE.

A FLOWER of splendid colouring. The light ground is profusely spotted with chocolate-red and bands of light rosy purple run across the petals, the extremities of the sepals being tinged with the same colour. Exhibited by Mr. R. Brooman White, Arddarroch, Garelochiel, N.B. Award of merit.

ODONTOGLOSSUM CRISPUM PUR- PURASCENS.

THE Orchids exhibited at the Royal Horticultural Society's meeting, at the Drill Hall on March 27, were not so numerous as on the previous meeting. The unfavourable weather prevented many growers from bringing their plants, but there were many beautiful things, especially Odonoglossums. It is doubtful if ever three such fine varieties have been brought together as those shown by M. Jules Hye, of Ghent, Mr. W. Thompson, Walton Grange, Stone, and the subject of the accompanying illustration, O. c. purpurascens, exhibited by Sir T. Lawrence, Bart., from the Burford collection. This is not the first time this remarkable kind has been exhibited. It was shown previously on June 27, 1899, and received an award of merit. A full description of it will be found in THE GARDEN report of that date. The plant then gave promise of improvement, but no one could have expected such a great change as the cultural skill of Mr. W. H. White has brought about, and, as shown on the 27th ult., it represented one of the finest Odonoglossums in cultivation, and fully deserved the first-class certificate awarded. It may briefly be described as the combination of two other kinds—O. c. heliotropium and O. c. Starlight—previously certificated. The flowers are 3½ inches in diameter, the petals 1½ inches broad, white around the crested margin, becoming suffused with light rose through the centre, shading to white at the base. Numerous reddish-purple spots are scattered over the central portions. The sepals are the same size as the petals, light rose on the outer margins, becoming suffused with heliotrope, shading to white at the base, the central area being thickly covered with a dense suffusion of reddish-purple spots. The lip is white shading to yellow on the disc, and in front of the disc there are large brown spots; there are also some brown lines on the crest. The column is white, becoming heavily suffused with dark brown. The cut raceme of ten flowers was most effective.

H. J. CHAPMAN.

THE Narcissus committee recommended one award of merit only, and this to a bicolor *Daffodil*, called *Allen's Beauty*, which, as the flowers were taken from the open ground, stamps it as much the earliest of all the bicolor race, most others being now only in bud in the open. The flower is of good size, its segments well held back, and the trumpet reflexed, as in *Horsfieldi*. From Miss Willmott, Warley Place, Essex.

M. MAXIME CORNU.

ALL interested in horticulture will learn with much regret that this gentleman, who for many

years occupied the position of Professeur-Administrateur au Museum d'Histoire Naturelle, better known as the Jardin des Plantes, died in Paris on the 4th inst. M. Cornu was a frequent visitor to this country, and was credited with having much broader views than his predecessor. He also was a fervent advocate of colonial expansion, and employed all his energy to encourage the development of the culture of economic plants. His loss will be felt all the more keenly, as at this time much attention is being directed to colonial matters in France.

NOTES OF THE WEEK.

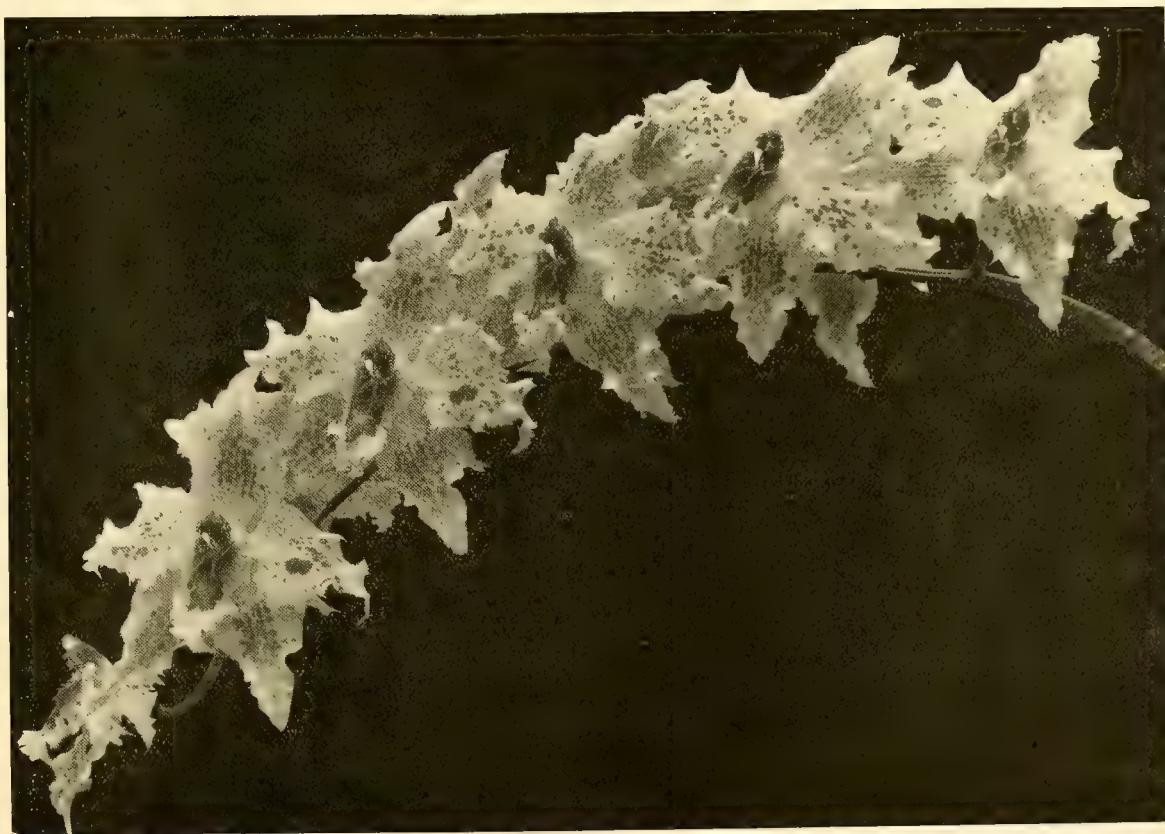
Kew Gardens.—The warm sunny weather has tempted the spring flowers to open in thousands at Kew. Nearly 50,000 persons visited the gardens on Monday last.

Hippeastrums (Amaryllises) at Chelsea.—Messrs. Veitch write us that their

medals to be balloted for. The ballot took place a few days ago, and the following were the successful societies:—The Barnet and District Chrysanthemum Society, the Forest Gate and Stratford Chrysanthemum Society, the Isle of Thanet Chrysanthemum Society, the Swansea Working Men's Institute Chrysanthemum Society, the Torquay and District Gardeners' Association, and the Wimbledon and District Horticultural and Cottage Garden Society.

Her Majesty Queen Alexandra has been graciously pleased to continue her patronage to the Gardeners' Royal Benevolent Institution, of which her late Majesty Queen Victoria was patroness for fifty years.

Anemone (Hepatica) triloba atro-cærulea.—Among the most charming of the plants that flower upon our rockeries and in suitable positions in the borders are the Hepaticas, or, correctly speaking, Anemones. I recently saw on the rockwork at Chiswick a small patch of a variety called *atro-cærulea*. It is of superb colour, more of the shade of the blue squill (*Scilla*



ODONTOGLOSSUM CRISPUM PURPURASCENS.

(Exhibited by Sir T. Lawrence, Bart., and given a first-class certificate by the Royal Horticultural Society on March 27.)

Hippeastrums are now in full beauty. We shall refer to them in next week's issue.

Zonal Pelargonium King Edward.

—Referring to "H. J. W.'s" note on page 239, if he will refer to the Royal Horticultural Society's report on the Hybrid Conference, he will find that I exhibited a white variegated sport from H. Jacoby with the note that this popular favourite was raised by my late father, and that the male parent was a white variegated sort. This solves the mystery of variegation, but raises the more difficult question of why the tendency to it should lie dormant for more than thirty years and then break out in two or three places, and in each case in different forms.—CHAS. E. PEARSON, *The Nurseries, Lowdham, Notts.*

National Chrysanthemum Society.

—By way of adding to the privileges which flow from affiliation with the above society, the executive committee set apart six of its small silver

sibirica) than any variety with which I am acquainted. Mr. Wright, the garden superintendent of the Royal Horticultural Society, considers it one of the best *Anemone hepatica* that we have.—H.

Kidderminster Horticultural Society.—We are very pleased to know that this society is making great headway. The hon. secretaries are Messrs. H. Linecar and W. H. Linecar, and the schedule sent us is interesting for more than one reason. It is quite a break away from the usual kind of thing, as it contains many classes for Sweet Peas. The show takes place at the Larches, on July 16 and 17 next.

The "Andrews" Apple.—Mr. Thorpe, Coddington Hall, Newark-on-Trent, sends excellently preserved fruit of what our correspondent calls "Andrews," but this is only a local name. The fruit sent was that of Braddick's Nonpareil, a good winter apple.

Polyantha Roses Mignonette and Miss Kate Schultheis.—In a recent number of the *Journal des Roses* a coloured plate is given of these distinct Polyantha Roses; the former is well-known; the last-mentioned has very full flowers, white, prettily margined with pink, reminding one in colouring of Marie Van Houtte.

Mr. Philip Crowley's library.—We are much interested in knowing that the library of the late Mr. Philip Crowley, of Waddon House, Croydon, will be sold by Mr. J. C. Stevens, at his rooms, 38, King Street, Covent Garden, on Monday next, April 15, at 12.30 precisely. The books may be viewed the Thursday and Saturday prior to the sale from ten to four o'clock. Catalogues (post free) may be had on application to Mr. Stevens. Amongst other important books are the following: "Biologia Centrali Americana," 35 vols.; Ray Society's publications; Warner's "Orchidaceous Plants," 3 vols.; nearly complete sets of Gould's and D. G. Elliot's valuable Ornithological Works; Booth's "Rough Notes on Birds," 3 vols.; Seebohm's "British Birds," 4 vols.; Hume's "Stray Feathers," 9 vols.; Yarrell's "British Birds"; Thompson's "Natural History of Ireland"; Harvie Brown's Ornithological Books; Sharpe's "Monograph on Kingfishers"; Buller's "Birds of New Zealand"; Grandidier's Works on Natural History; Shelley's "Sun Birds"; Zoological Society's publications; Dresser's "Birds of Europe"; Lord Lyfford's "British Birds"; "The Ibis," 42 vols.; Drury's "Exotic Entomology," 3 vols.; and various other works by Selater, Shelley, Macgillivray, Seebohm, Morris, Bree, &c. It is probably the finest collection offered for sale in recent years.

Chionoscilla The Queen.—The Chionoscillas, or hybrids between the Chionodoxas and Scillas, are interesting plants, not only because of their being the result of a union between two favourite flowers, but also because they promise to give us flowers which will add to the beauty of our gardens. I have thus watched their progress with a good deal of interest since they were first brought under my notice, and have had flowers of several forms, between various species or varieties of the Glory of the Show and the Squill, sent to me to see. They are now appearing in gardens rather frequently, and in most cases the seed bearer is *Scilla bifolia*, hybridised either with *Chionodoxa sardensis* or *C. Lucilæ*. Until a few days ago, however, I had seen no flowers showing any changes of colour from the blue and white or blue, which one might expect, although I have been looking forward to seeing a white and a pink form turning up. Mr. Allen has been the first to send me a pink one, which he has named *The Queen*. It is very beautiful, of a charming shade of pink. It has also a good habit, as it holds its flowers erect, and on good stalks. It ought to make a more effective plant than the pretty *Scilla bifolia rubra*, and one hopes that it is only the first of a series of flowers of equal beauty.—S. ARNOTT.

Brachystelma bingeri, a new *Asclepiad* with an edible tuber, is described and figured by M. A. Chevalier in the *Revue des Cultures Coloniales* for February 5. It is a native of the region of the Upper Niger. The tuber resembles in taste the Jerusalem Artichoke, and though only slightly nutritive, its value as a food is augmented owing to the fact that it can be procured when supplies of rice and millet are exhausted. Other species of *Brachystelma* and a *Ceropegia* are cited, all of which possess edible tubers.—*Knowledge*.

Tamarix kashgarica (T. hispida Willdenow).—This grand *Tamarix* is of but recent introduction, and was discovered by Mr. Roborowsky in Central Asia. Its delicate foliage, of a beautiful glaucous hue, renders it distinct from other varieties, and when in September the feathery branchlets are covered with hundreds of tiny rose-carmine flowers, forming such beautiful contrast with the foliage, its grandeur is unsurpassed by any other *Tamarix*, and it most certainly ranks among some of the best novelties introduced of late years. But very few shrubs are so floriferous, and the colour of its flowers is rare in our borders, and especially in fall, when our

flowering shrubs can be counted on the fingers. When the eminent horticulturist Peter Barr of London saw this *Tamarix* on his visit here a couple of years ago, he remarked: "This is the finest thing I have seen for many days." *Tamarix kashgarica* is quite distinct from *T. amurensis* (T. odesseana), with which variety it seems to have been mixed. The last-named is of a more robust growth, with coarser foliage, flowers of considerably lighter shade, and not borne in such great profusion as are the first-named.—JAMES JENSEN in *Park and Cemetery* (America).

Mr. G. Schneider.—On account of the extensive alterations now taking place at the Royal Exotic Nursery, where about half the ground is to be used for erecting dwelling-houses on the site of the noted Ferneries and other plant houses at present in course of demolition, Mr. G. Schneider has left Messrs. J. Veitch and Sons, after thirty years of service. On March 29 a little farewell evening party, organised and presided over by Mr. John Heal, V.M.H., was a great success, the principal feature of it being the presentation of a suitable souvenir, offered by the remaining members of the staff to their old friend, who gracefully acknowledged his toast.

Forcing Lilium Harrisi and L. longiflorum.—It is the opinion of experts who have given the matter much attention that stable manure should not be used either in potting or as a mulch at any time in the cultivation of *Lilium Harrisi* or *L. longiflorum*, whether stored or in the greenhouse, but that only artificial fertiliser, perhaps nitrate of soda, in moderate quantity, should be used as a stimulant. It is also recommended that the plants be watered very sparingly and kept, as growers say, on the dry side. The roots should show white when examined. If they are brownish or otherwise discoloured, it is an indication of over-watering. It is further advised that the plants be sprayed at night, if sprayed at all. How does your treatment of Lilies compare with these recommendations?—*The American Florist*.

A new hybrid water Ranunculus.—Some years ago we received from Mr. T. Hilton a curious water *Ranunculus*, collected by him at Copthorne Common, East Sussex. The upper leaves and the heads of carpels resembled those of *R. Lenormandi*, but the lower leaves were much divided though not capillary, while in stature, and the shape and size of the flowers, it resembled a small state of *R. peltatus*. Our first impression was that it must be a hybrid between these two species, but the presence of some well-developed heads of fruit seemed to militate against this view, and we did not feel that there was sufficient evidence to come to a conclusion, so put it aside among the many puzzles in this group, to await further material for solution. On May 23 last year Messrs. C. E. Salmon and James Groves visited the locality, duly found the plant, and collected a series of specimens. It occurred somewhat sparingly in a rather muddy stream in company with *R. Lenormandi* and a fairly typical form of *R. peltatus*, but generally in deeper water than the former. On examining a number of fruiting heads we found that a considerable proportion of the carpels were undeveloped, and this being the case, taken in conjunction with the facts that the plant occurs in small quantity in company with both of the supposed parents, and that it possesses some of the distinguishing characteristics of each of them, we cannot resist the conclusion that it is a hybrid between *R. Lenormandi* and *R. peltatus*. The plant is so distinct and remarkable that we think it desirable to describe and figure it.—H. and J. GROVES, F.L.S., in *The Journal of Botany* for April. (A figure and technical description is given.)

The Preservation of Fruit.—A new process for keeping fruit fresh and unchanged for considerable periods of time is now being introduced into this country from America by the Lawton Patents, Limited, of 57B, Hatton Garden. The desired end it is sought to attain by sterilising the atmosphere in which the fruits are stored, and depriving it of most of its oxygen. For this purpose they are placed in an air-tight chamber lined with

non-conducting material, in order that its temperature may remain uniform, and filled with air which, after passing through a mass of wool soaked with brine, has been blown through coke at red heat. The gaseous mixture thus produced, consisting mainly of nitrogen with carbonic oxide, carbonic acid, and a small percentage of chlorine, is freed from sulphur and moisture by suitable purifying agents, and, after being cooled, is pumped into the chamber, where the fruits are submitted to its action for a period varying from twelve to thirty-six hours, but usually about twenty-four. At the end of that time moisture will be found to have developed in the atmosphere of the chamber; this must be removed by the use of the purifying apparatus just mentioned, and if it accumulates again—means are provided for its detection—the drying process must be repeated. Ripe fruit, it is claimed, can in this way be kept unchanged for so long a time as to admit of its being imported from distant countries in perfect condition; and, moreover, it is said that it will remain good, after removal from the apparatus, longer than fruit which has undergone the usual refrigerative treatment. It may, therefore, be picked properly ripe, instead of half-green, as is usually necessary with present arrangements. If, however, ripening is required during transport by the Lawton process, it can be effected by admitting more oxygen to the chamber. The opening took place at the offices of the company of a chamber into which various fruits, including Grapes, Bananas, and Tomatoes, were sealed three weeks ago. The Bananas, which were hard and green when put in, appeared substantially unchanged; Grapes, which had been hung up in a bunch, were firm and juicy, presenting a marked contrast to some mouldy, dried-up specimens which were the remains of a similar sample hung up at the same time, but not in the apparatus; while the ripe Tomatoes were also in excellent condition, except for some slight signs of wizening at the point where they had rested on the shelves of the chamber.—*Times*.

Hybrid Orchids.—Mr. Douglas brought some hybrids to a recent meeting of the scientific committee of the Royal Horticultural Society, for the purpose of showing that Orchids which flower naturally at the same period of the year produce satisfactory results, whereas if crosses are effected between species that do not naturally flower at the same period, the results are unsatisfactory. As an example of the latter he referred to *Lælia* × *Briseis*, a cross between *Lælia purpurata* (pollen parent) and *L. harpophylla* (seed parent). He observes: "The seed did not germinate freely; two plants only were obtained from what seemed a very satisfactory capsule. The Orchid committee thought it worthy of an award of merit. Both plants are natives of Southern Brazil. *L. harpophylla* produces its flowers under cultivation in February and March; its flowers are small, 2 inches to 3 inches across, of a bright cinnabar-red colour, and altogether unlike the gorgeous *L. purpurata*, with coriaceous leaves 12 inches to 15 inches long, having flowers 6 inches to 8 inches in diameter of an amethyst purple colour. The only trace of this colour in the progeny is a slight tinge on the lip, and in no respect is there anything to lead one to the conclusion that *L. purpurata* was the parent. The plant is very much larger in all its parts than *L. harpophylla*, but not nearly approaching even the intermediate size of *L. purpurata*, either in flower, leaf, or pseudo-bulbs. Can any reason (other than the fact that the two species do not flower at the same season of the year) be shown that the seedling is not intermediate between the two parents?" He also exhibited flowers of *Cymbidium eburneo-lowanum*, with flowers of the seed parent, *C. lowianum*, and of the pollen parent, *C. eburneum*. In this case the two parents naturally produce their flowers at the same time, and the result of hybridisation is entirely satisfactory. The pseudo-bulbs and leaves are as intermediate as are the flowers. The flower spikes are longer than those of *C. eburneum*, but not so long as in *C. lowianum*. In the one case the result was disappointing, in the other very satisfactory; moreover, it has been asserted that such results, are to be expected. May I ask why?

Plants for damp places in the wild garden.—In many a garden or its outskirts there is a piece of damp ground or a space by a stream or a shallow ditch. Some people would think it best to drain it and to make it into quite sound ground, but it is far better to keep it in its own state and to plant it with what will enjoy just such a place. It is a grand lesson in good planting to see by the illustration last week how this has been done at Mr. Wilson's. Here in one margin of the shallow stream is the beautiful Japan Iris *I. lœvigata* (perhaps better known as *I. Kämpferi*), and on the other some of the larger of the herbaceous *Spiræas* of which *S. Aruncus* may be considered the type. Beyond this are seen the tall stems of *Heracleum giganteum*. The picture shows not only what are the good things to grow in such a place, but how they are best planted in wide groups and masses. So only can the true ways of the plant be seen and its true value be appreciated. Important though it is in the trimmer garden to plant in sufficient quantities of one good thing at a time, in the wilder ground it is a necessity, or the whole character of the place is spoilt.—S.

Cinerarias from Messrs. Clibran.—We have received a boxful of flowers from this well known firm, Oldfield Nurseries, Altrincham, Cheshire. The flowers show how carefully the strain has been brought to its present perfection; they are not absurdly large, but pure and fresh, some quite self, others tipped with colour, a rich and varied assortment, which shows that the masses of them now in bloom at Altrincham must provide a feast of colour.

Rose show fixtures received since the last list was sent:—July 2 (Tuesday), Hereford; July 3 (Wednesday), Farningham; July 10 (Wednesday), Formby; July 16 (Tuesday), Kidderminster. Correction.—Stambridge (Essex) instead of Great Stambridge.—EDWD. MAWLEY, *Rosebank, Berkhamsted, Herts.*

A beautiful pest.—We have received a sheet of *The Queenslander* with five illustrations from photographs showing portions of the Bremer River almost completely choked with a close growth of the handsome South American aquatic plant, the Water Hyacinth (*Eichornia* or *Pondetaria crassipes*). We hear also that it has increased in the streams in Florida to such an extent as to be quite a nuisance, while in its native Amazon and tributary streams it is often so thick as to impede navigation. The specific name *crassipes* refers to the swollen petiole or leaf stalk, which thickens under water to a gradually swelling and then diminishing form, having an elliptical section of some size in its thickest part. These examples of a beautiful water plant becoming a troublesome pest is only a repetition of a former experience, and shows that an untried plant should be introduced with the utmost caution, even in private waters; for many of these are in communication with rivers, to which small detached pieces, and still more easily seeds, may be carried. Probably our cooler waters would not be so liable to the danger in this case, but it is well to be on our guard.

Cherry tree on the table.—Something new is promised in the way of a society fad, and the very wealthy New York set, which is always looking out for fresh opportunity to squander money, is pleased greatly by the novelty of the idea. During the present winter no really swell and properly equipped dinner table has been considered complete on a festive occasion in the house of any millionaire unless there is a dwarf Cherry tree for an ornament—at least one Cherry tree, that is to say, though there may be as many as half a dozen. These trees will bear actual fruit, ruddy ripe, which the guests are expected to pluck for themselves when dessert time arrives. Not more than 100 Cherries will be on each tree, but, inasmuch as they will be of extraordinary size and delicious quality, besides being so unusual a luxury, this number should suffice for a small dinner party at all events—one of those ideally managed entertainments at which, in accordance with accepted theory in such matters, the persons present are not fewer than the graces nor exceeding the muses numerically. These dwarf Cherry trees have been evolved by the ingenuity of French gardeners, and

during the last winter they have been the vogue in gay Paris. That they cost a good deal of money goes without saying, inasmuch as the fruit has to be forced by special processes in the greenhouse, and, the little crop once picked, there cannot be another until a twelve month later. The French are wonderful at this sort of thing, having developed the art of horticulture along certain lines to a point undreamed of on this side of the Atlantic. The Cherry trees, as they appear on the dinner table, are four or five years old, but have trunks only about an inch and a half in diameter. They have never been permitted to grow more than 3 feet high, being kept cut down to that point, while most of the branches are lopped off, so that the little tree has a wholly artificial aspect. At the proper time it is set in a pot and placed in the hothouse for the purpose of forcing it to fruit. And finally, when the fruit appears, most of the Cherries are removed, whilst as yet immature, with a pair of scissors, only 100 or so being allowed to ripen. As a result they have a size and quality far superior to the best of ordinary Cherries. Rich people in Paris are not less reckless of money expenditure than are those of the smart set in New York, and there is probably no place in the world where fruits of rare or exceptionally delicious varieties command such extravagant prices. The first Cherry that was offered in the Paris market this year brought 20 francs, or 4dols., not a Cherry tree, mind you, but a single Cherry. But then it was the only Cherry for sale on that day, and so it may be said to have been relatively cheap. It was purchased by Count Boni de Castellane, or, more correctly speaking, was bought for him by his order.—*Boston Transcript.*

THE FERN GARDEN. HARDY FERNS.

AS hardy Ferns are now beginning to wake up from the winter sleep and start into active growth after the long rest, this is the best time of the year for dealing with them in the way of rearranging, replanting, and division, since there is now no risk of damaging new growth by such operations, and they are in the more vigorous state to withstand any consequent shock. Ferns in pots should be carefully examined, and if the plants appear weakly, *i.e.*, if no signs of swelling of the crowns be apparent and the fronds of evergreen species are mainly brown and dead, such plants should be shaken out and repotted. The cause will frequently be found in a sour condition of the soil and consequently perished roots, or it may be that the fat white grubs of the weevil are found at the root, in which case a thorough washing out of the soil and careful examination of the caudex is necessary to ensure entire elimination. Green fronds should not be cut off but turned down in case of need to make room for the new ones; brown and shrivelled fronds may be removed with benefit. Ferns which send up their fronds in circlets, shuttlecock fashion, are very apt to multiply their crowns by fissures through the centre or offsets on the sides, and as the result of this is an intermingling of the fronds and a struggle for existence between the various crowns, it greatly benefits such plants to part them into single crowns and instal them separately. As a rule the separation is easy. The Fern clump should be turned out of the pots or forked out of the ground and the offsets pulled away, or, if need be, wedged away with a trowel or blunt knife; each then is seen to possess its own individual set of roots, and the less these are broken or damaged the better for the subsequent establishments. Where crowns have split up into two by central fissure, we must wait until each has developed clear of the other with a sort of neck between, and then probably a sharp knife will be needed to start the separation, care being taken to cut as little as possible and to keep to the centre. In this and the preceding operation, it must be borne in mind that most of the fronds of the season are already packed inside the crown,

and must not be subjected to pressure or rough usage. The preceding remarks apply to hardy Ferns, shield Ferns, *Lastreas*, and *Blechnums*, except that the last-named species, being small, is better adapted for clump growing. For Ferns with travelling root-stocks like the *Polypodies*, although they may be propagated easily enough by cutting their long root-stocks into separate pieces, each provided with a frond or two, a growing top, and the attendant roots, as a rule they are better left undisturbed, and if shifted into roomier quarters lifted *en masse*. For these it is essential to provide an open leafy compost and plenty of surface room, and to keep these growing tips close to or even on the surface. The Bladder Ferns, *Lastrea thelypteris* (Marsh Buckler Fern), and the varieties of the Bracken (*Pteris aquilina*) also belong to this category of Ferns with rambling root-stocks. The Spleenworts form little clumps, and, as wall Ferns, should be installed in rocky chinks or at the edges of pots and pans. The Royal Fern (*Osmunda regalis*) is also a clump grower, and does best in a peaty compost kept constantly moist, as it is really a marsh or riverside plant, and cannot stand drought at all. In constructing rockeries, for which this is also the best time of the year for the reasons given, these peculiarities of the Ferns should be borne in mind, and also the fact that though ample daylight is required, Ferns like protection from hot sunshine and rough winds, and also need a constantly loosened soil. Hence rockeries should be constructed facing north or north-east, and in such positions that some sort of screen exists against both sun and blustering breezes. A good general compost is a liberal admixture of leaf-mould with good loam, and where particularly precious youngsters are installed a little silver sand and peat may be used with advantage in the stations made for them. Finally, if the collection (so called) consists of nothing but the common forms of the species as retailed by street hawkers or exhibited by florists in boxes at 1s. per dozen in ignominious corners of their shops, turn them out or give them away, and acquire some of the good varieties which are described from time to time by the writer. These varieties are infinitely more beautiful and yet quite as hardy, and hence it is just as absurd to devote good accommodation to the common ones as it would be to grow in our gardens the original seeds from which many of our finest flowers have been developed. CHAS. T. DRURY, F.L.S., V.M.H.

SHORT STUDIES ON PLANT LIFE.—VIII.

EARLY-FLOWERING CRUCIFERS.

As soon as the temperature is about 10° above freezing point a few of our wild flowers begin to put in an appearance, and some half dozen Crucifers are the first to make themselves conspicuous. As example, the four following may be taken: *Cardamine hirsuta*, Bittercress; *Sisymbrium Alliaria*, Jack-by-the-hedge; *Erophila vulgaris*, Vernal Whitlow-grass; and *Capsella Bursa-Pastoris*, Shepherd's Purse. All of these have very small and inconspicuous flowers; all of them blossom before there are insects about, and all set a profusion of seed, as can be easily observed by the number of well-filled pods which follow the continually extending peduncle, which supports the flat-topped corymb composed of flowers and buds.

If the structure of the flowers be compared with that of a large-flowered Crucifera as of the Wallflower, one notices the following differences. In the latter there are two large honey-glands situated right and left upon the floral receptacle. The only access to them is by two passages between the stamens directly over the glands. The cross-like petals form a flat landing-place for a bee. The stigma is bilobed, pointing to the back and front, so that the bee's proboscis glides over the fork down the passage straight to the honey-glands.

On flying to another flower the pollen is scraped off the proboscis as it passes over the cleft between the two stigmatic arms.

In all the four species mentioned, however, the two stigmas are enclosed into a globular head, while the anthers are placed in contact with it, and there is little or no honey. Moreover, the stigmas mature simultaneously with the anthers, and the pollen-tubes enter it without any crossing at all. In other words, these plants are habitually self-fertilised.

They are all annuals, as is often the case with such plants, but by no means always, as the Watercress, &c., but one consequence of their being independent of insects is, that wherever the seeds are carried, they can grow, provided the climate is congenial.

The consequence is that not only are they widely dispersed naturally, but man has—of course unintentionally—distributed them still further afield. Thus, of the Bittercress, Sir J. D. Hooker says of its distribution, "north temperature and cold zones, also south temperature." In looking through "Floras" I find it recorded from Chili, South Australia, New Zealand, Auckland and Campbell's Islands, Falkland and Fuegia, Tasmania, South Africa, Tropical Asia, North-east Africa, Hong Kong, Madeira, North-east Asia, and Kamtschatka. The others are dispersed more or less in the same way.

What is the lesson to be learnt from these Crucifers to which many other plants might be added, as the Watercress, Veronicas, &c.? It is that they have their flowers especially adapted to self-fertilisation through a state of degradation from more conspicuous ancestors. The result is a far greater degree of fertility is acquired than that of plants whose flowers are specialised for insect pollination. Another consequence is that they become far more widely dispersed over the globe.

Since plant life has but two "ends," viz., to secure as healthy existence as can be had, and to leave plenty of good seed when the individual dies. Of all plants these "ends" are best secured by self-fertilisation.

Habitually self-fertilised plants thus prove that they are the best fitted to survive in the struggle for life.

GEORGE HENSLOW.

THE ROSE GARDEN.

ROSES IN CEYLON,

AT AN ELEVATION OF 5,400 FEET ABOVE SEA LEVEL.

ROSSES at a high elevation in Ceylon do very well indeed, with but a few exceptions, such as the Hybrid Perpetuals Jennie Dickson, A. K. Williams, Reynolds Hole, and a few others. The Hybrid Perpetuals have to be allowed to grow very much as they like, that is to say, no pruning is necessary, only the removal of dead wood, and to let the plant grow on. The plants look straggly by this treatment, but it is the only way to ensure success. Plants that are cut down year after year do not flower properly, and only have a very short life. Among the best are Clio, Robert Duncan, Thomas Wood, Alfonse Suppert, Baron de Bonstettin, Beauty of Waltham, Boule de Neige, and Countess of Oxford. The Victor Verdier tribe all do splendidly and are always in flower. Heinrich Schultheis and its sports are excellent, and Hybrid Teas are without doubt the class above all for this country. As a rule they do better than the Hybrid Perpetuals or Teas, with a few notable exceptions, such as Maman Cochet both



ROSE GARDEN AND BUNGALOW IN CEYLON.

pink and white. There is no better Rose grown than this; it simply grows like a weed, and makes very large trees in a year or so from cuttings, and the blooms are enormous and exquisitely formed. To begin to enumerate the Hybrid Teas that do well would be to mention nearly all that can be found in a modern English catalogue. Captain Christy and its sports are in the first rank with the La France tribe, Augustine Guinoisseau and Duchess of Albany being the best of this family. Bessie Brown, Mrs. Grant Baldwin, Kaiserin Augusta Victoria, Mme. Joseph Comber, Mrs. Whitney, Souvenir du President Carnot, Shandon, &c., are by far the best Hybrid Teas.

Teas as a class do very well, in the first rank being Maman Cochet, Anna Olivier, Niphotos (climber), Cleopatra, Perle des Jardins (climber), Duchesse Marie de Rotibor, Emile Gonin, Francisca Kruger, General Bitton, Hon. Edith Gifford, Jean Ducher, Mesdames Baldwin, Berard and De Watteville, Marie van Houtte, Mrs. E. Mawley, Rubens, Safrano, Sappho, and the Souvenir d'un Ami tribe, Zephyr. A lot of the Teas are bad growers, and never make good trees. Noisettes as a class do well. Niel, both yellow and white, Cloth of Gold, L'Ideál, Réve d'Or, W. A. Richardson, and Lamarque are the best. Both Banksians do well, and soon make extra large trees.

The Bourbon class does not do well, only the Hybrid Bourbon are of any use, such as Mrs. Paul, Philemon, Cochet, Purity, and both the climbing and bush Malmaison. The ordinary Bourbons do not flower well. Rosa polyantha, such as Aglaia and Crimson Rambler, grow fast and soon make very large plants.

Chinas do well, but this class as a rule are not very useful, the flowers being very poor and not lasting. The best Chinas are Cora, Duke of York, Duchess, Flora, Mrs. Bosanquet, and Red Pet.

The Japanese Rugosa Roses do very well, but have a very straggly growth, and can only be grown as a hedge or back ground.

The Penzance Briars are worthless, and only flower once in a way, though they make good growth. I have all the varieties, but use them as the stock for budding on. Moss Roses are also useless. The only two that flower at all are White Bath and Perpetual Moss, both of very straggly growth and of little or no use.

Roses from seed are very easily raised, and with care good varieties are obtained. The seed ripens all the year round, and is produced freely, if the flower has been fertilised. The writer has raised some fine new sorts from M. Niel, Niphotos, Robert Duncan, Thomas Wood, General Jacqueminot, &c., and they may be heard of in the Rose world.

A CEYLON ROSARIAN.

OWN ROOT ROSES.

For over twenty years I have advocated Roses grown from cuttings, as I have found certain sorts succeed admirably growing in that way, whether in pots or in the open.

I, too, like Mr. Hatfield, have found Magna Charta quite one of the best varieties to grow from cuttings. No variety that I am acquainted with is better for growing in quite small pots, say from 4 inches to 6 inches. Stocky plants carrying two and sometimes three good-sized blooms in the smaller pots, and as many as six on plants in the larger, are excellent for vases in the dwelling-house or conservatory. This variety, too, carries such robust leaves that it is enhanced as a vase plant in consequence.

Baroness de Rothschild is another variety suitable for this form of culture, and so is La France, Edouard Morren, Captain Christy, and several others. Huge bushes of all these can be quickly grown in the open when raised from cuttings.

When we think of the vigorous-growing garden Roses like Félicité-Perpétue, Crimson Rambler, Cloth of Gold, Réve d'Or, and Lamarque there seems to be even still greater scope for own root Roses.

By far the best way to strike the cuttings of H.P. varieties intended for pot culture is to take cuttings 4 inches to 6 inches long in May from plants that flowered in pots in April, inserting them rather thickly in sandy soil in pots, plunging them in a gentle bottom heat in a Cucumber frame, shading from bright sun, where they will quickly form roots. When well rooted, pot them separately in 3-inch pots and induce them to make fresh roots at once by giving them a moist heat for a week or two, gradually hardening them off until they may stand out of doors for the remainder of the summer, plunged in ashes, which more easily maintains moisture about the roots than when such small pots are exposed to sun and wind. Such plants, if carefully attended to, will produce really good blooms the following year.

The difficulty is at times to obtain shoots in quantity of the varieties required to enable cuttings to be taken as freely as one would wish

at that time of the year. Still the principle of propagation merits approval.

The more orthodox method of striking Roses from cuttings is that of inserting pieces 8 inches to 10 inches long in rows on a partly shaded border some time in October. Occasionally a good strike is obtained, but not always, owing to a fault of insertion.

What are commonly known as garden Roses strike in this way much more readily than the ordinary H.P., owing perhaps to their natural vigour of growth.

A much more certain method of striking Rose cuttings is that of inserting them in sandy soil in a cold frame at the end of August or early in September. Select shoots that flowered somewhat early, therefore partly matured, and not too vigorous. Cut these into 6-inch lengths, rejecting the sappy portion at the apex. Make them quite firm at the base, shade slightly at first from bright sun, and sprinkle the leaves daily, as the retention of these uninjured is all in favour of securing a good strike.

The following April, or early in May, the plants will be ready for planting out or placing in pots if they are intended for that method of culture.

E. MOLYNEUX.

STANDARD WISTARIAS.

THE beauty of the charming *Wistaria sinensis* when grown as a standard has been well demonstrated at the recent meetings of the Royal Horticultural Society, held in the Drill Hall, Westminster. The drooping racemes of the pale blue Pea-like flowers are then seen to the very best advantage. Plants in the form of standards are also most useful for decorative purposes in the greenhouse and elsewhere. Our photograph shows one of the several beautiful specimens lately exhibited by Messrs. R. and G. Cuthbert, Southgate, London, N.

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

PLANTING.

GERMAN Irises and some others of the rhizomatous section may be lifted, divided, and replanted now if desired, though, except for increasing stock or to form fresh groups, all are best left undisturbed while doing well, for they do not relish disturbance at any time. The soil on the new site should be made quite firm, so that there will be no sinking afterwards, and the rhizomes only buried sufficiently to anchor the plants, as they like to run near the surface.

EULALIAS

take kindly to spring division and replanting, and should not remain too long on the same site, as they impoverish the soil and go back in growth. Both the green and the variegated forms are very ornamental in habit, and are welcome occupants of the borders when well placed. A little good manure may be dug in for them and the soil stirred deeply.

CALYSTEGIA PUBESCENS FL.-PL.

is a charming climber when given a new site or replanted in fresh soil, which should be rich, every alternate year, but develops red spider if left to starve and crowd itself out. Lift at once, selecting the strongest crowns, and replant.

TUBERS OF TROPEOLUM TUBEROSUM

should be planted in very sandy soil, and given such a soil it will be found an excellent climber for a wall or trellis with an east aspect; indeed, I have found it invaluable for such a purpose in the sandy soil of Suffolk, and flowering plants that do well on such an aspect are none too common.

TROPEOLUM SPECIOSUM

should be planted now, using pot roots and planting them deeply, from 8 inches to 12 inches, accord-

ing to the nature of the soil, being none too deep. The question of aspect I will leave alone, as it has succeeded in all aspects in isolated cases, but it certainly likes coolness at the root. Small roots I planted at the base of a Yew hedge two years ago, planting on the shady side, have now many roots, almost as thick as one's little finger, and from these the results ought to be good. Previous successes have always been with roots planted in shade. Hardy plants, such as *Herniaria glabra*, mossy *Saxifragas*, &c., used for carpeting, more tender things should now be planted; they will give less trouble than they would if left till later, and the former will run together and form a nice carpet before bedding plants are put out.

HARDY FERNS

are best moved just as they are beginning to grow. In most seasons this occurs about the end of March, but the cold spring has kept these very backward, in common with most other plants, and they will now be just right for the purpose. These Ferns grow so well in shady nooks and look so cool in hot summer weather that room for a hardy Fernery should be found in all gardens. Early sown

SWEET PEAS

have had a bad time just lately, and it will be advisable to sow again at once on a spot where they may get a deep root run in soil that has been well manured for a previous crop, but in which no fresh manure has been put.

In the spring garden attention should be paid to staking or otherwise supporting and guarding from the wind the heaviest spikes of *Hyacinths*, &c., as the loss of only a few flowers in *Hyacinth* and *Tulip* beds make them look poor.

The propagating season for tender bedding

plants is fast drawing to a close. Before it is too late the stock should be gone through and note made of any deficiency, making this good by putting in more cuttings at once. Continue to harden off earlier struck plants as fast as room can be found for them in frames or in make-shift shelters.

J. C. TALLACK.

KITCHEN GARDEN.

POTATO PLANTING.

THE planting of main crop and late varieties of Potatoes should be pushed forward when the soil is in condition. If already dug and of an open nature the sets may be planted by means of a Potato dibber, but if the ground is heavy the best way is to plant as the digging is going on, taking care to pulverise the soil to the full depth of the spade. Good varieties for this planting are *Windsor Castle*, *Scottish Triumph*, and *Kerr's Cigarette*, for round; and *Devonian*, *Reliance*, and *Matchless*, for kidneys. These may be planted 30 inches between the rows and 15 inches from set to

set. If manure is applied when planting, it should be thoroughly rotten and of a light nature, such as spent hot beds, composed of leaves and stable manure. On poor land a sprinkling of Potato manure may also be applied in the rows, and the dressing repeated before earthing-up takes place.

Cabbage sown early in the season will now require pricking out in beds where they can be protected from cold wind for a time. When moved to their final quarters care should be taken to break as few of the roots as possible, and a showery day chosen for the operation. If a rich piece of ground can be set aside for this crop it will reduce the time required for their development, and also the necessity of retaining old stumps, which are unsightly at any time. *Brussels Sprouts* sown at the same time will also require attention to keep the plants stocky. Where Sprouts are expected by the end of September, as they are here, there is no time to lose in the preparation of the plants. When the time arrives for their final planting an open situation should be chosen and plenty of room allowed between the plants, so that light and air can pass freely through them. The main crop of Broccoli should now be sown. Rather a poor soil is best for this purpose, in order to grow the young plants as hardy as possible, so that when planting-out time arrives they will be better able to stand the effects of hot weather. The seed should be sown thinly in drills 4 inches apart and half an inch deep. The different varieties of Broccoli may be sown at the same time, also *Savoy*, *Cabbage*, &c., and covered with garden netting to keep the birds from taking the seeds.

French Beans may be planted in cold frames where the surface of the soil is within 18 inches of the glass. Dwarf growing varieties should be



STANDARD WISTARIA FORCED.

chosen, and may be planted in rows 16 inches apart; Osborn's Forcing and Early Favourite are good varieties for this purpose. The Dwarf Butter Bean may also be planted in the same way. This is a free cropping Bean of excellent quality, and where it is appreciated it can be produced with exactly the same treatment and expense as the ordinary French Bean.

TURNIPS.

A good sowing of Turnips may be made at once, so that the crop may be established before the hot weather. The Turnip requires a light rich soil, and may be sown in drills 1 foot apart. As the season advances choose a north border for this crop, and give frequent dustings of soot and lime to keep the fly from destroying the young plants. Snowball and Red Globe are good sorts for summer sowing. Make frequent sowings of Radishes and Mustard and Cress, so that there will be no scarcity of things so easily produced at this season of the year.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

THE FRUIT GARDEN.

HARDY FRUITS.

OWING to the rough winds of late, trees given protection on walls will have needed much attention to keep the protecting material in position. Now is a critical time, as with the trees in full bloom and frequent hailstorms the blossom suffers if not given shelter. With early trees in favourable localities the fruits will have set, and thinning may commence; in many cases there are double fruits, and these, with others at the back portion of the branches, may be removed, leaving those well placed, and, where possible, fairly distributed evenly over the trees. The fruits on healthy trees rarely fail to swell when set, but, of course, I do not advise severe thinning at this early period, but to partially thin now and go over the trees several times later on when it is seen which fruits are taking the lead. Now the cultivator's troubles will begin as regards insect pests, and one of the worst is the black fly, as this is so difficult to eradicate. Dusting with tobacco powder is a good plan and carefully going over the infested parts of the trees, removing any wood not required for extension or fruiting next season. It may be necessary to syringe some trees, but to do this care must be taken after using any insecticide to wash the foliage afterwards with clean water.

DISBUDDING

will next claim attention, and this must be done gradually. Of course, in some parts of the country the trees are more advanced than in others, and no fixed date can be given, as a great deal depends on the locality, position, and variety also. I need not go at length into this work, but would advise those unaccustomed to it to always retain a strong bud or shoot at the base (this will be next year's fruit wood), also to pinch back shoots near fruits, not rub them out, and in other cases by stopping. Where there is not room to lay in new wood, spurs will be formed; these will be valuable for fruit another season.

Disbudding is like fruit thinning somewhat; one must go over the trees several times to see what wood is needed, and in all cases it is advisable to have free growth above the fruits wherever these are placed, as, unless this is allowed, the fruits do not swell freely, but will most likely fall during stoning. It frequently happens with gross-growing young trees that fruits do not set so freely on the strong wood. Measures must therefore be taken to check this by hard pinching. Of course, root-pruning is the best preventive, but this now is out of the question, and must be left till next autumn. Much may now be done by systematic stopping of gross wood. Apricots will need similar attention in the way of shelter and thinning. I do not think it well to leave the fruits so long as is often done, as many think there is a danger of fruits dropping when stoning. This rarely occurs if the trees are robust, so that I advise early thinning of fruits. G. WYTHES.

Syon House Gardens, Brentford.

INDOOR GARDEN.

SEASONABLE ARRANGEMENT OF THE PLANT HOUSES.

THE advent of Eastertide marks a season in the year when certain work both outside and under glass must be in a certain stage of development, and there are classes of work with which we are familiar, viz., house and church decorations. It has always been my custom to make as great a change in the arrangement of our plant houses as is possible with the material at command. Many things naturally flower about now, and with a little forcing readily produce flowers. Azalea Deutsche Perle might here be instanced as bearing on the foregoing, for though we have been cutting from this useful variety since last November we have still a large number of plants in the bud state, but such is the freedom with which this variety flowers that if put into heat it would bloom in a very few days. This is a most charming plant where church decoration has to be catered for. Callas will still be sending up their spathes, and form suitable plants for conservatory; Spirea multiflora compacta and S. astilboides are superior to the older S. japonica; S. confusa, one of the shrubby forms, makes a handsome conservatory or greenhouse plant, and is easily got into flower. Another shrub might here also be mentioned—Garrya elliptica. This, though differing in colour of flower, is still not to be ignored on that account. It will be hardly necessary to mention such well-known subjects as Viburnum Opulus and V. plicatum, two things that, though somewhat stiff, are essential where large stocks are grown and house decoration extensively carried out. Lilium Harrisii, L. longiflora giganteum, and L. g. eximium will, with their rich white trumpet flowers, give an imposing tone to almost any combination. Cinerarias, though by no means a first-class flower, are invaluable for mixing along with other subjects of a taller habit, their dwarfness seeming to suit here. Cyclamen, too, especially the Giant White and Butterfly, will take their place in suitable stations and duly merit their share of attention. There are many other subjects which might here be mentioned, such as Azalea mollis, Prunus Pissardi, double-flowered Cherries, bulbs, &c., but which must in the meantime stand aside. The whole, we will assume, are quite ready to be suitably arranged, pots washed clean, any refuse cleared away from the surfaces of pots, &c., but before a start is made let the man who is to make the change round have a clear idea what is required, so that the waste of labour, annoyance, and disturbing of plants may be avoided. Study the practice of placing the plants thinly, and let the best specimens stand out conspicuously. Nothing is gained by overcrowding, and it is really in the thin but tasteful arrangement that the skill of the decorator shows itself. J. F. McLEOD.

Dover House Gardens, Roehampton.

AMATEURS' PERPLEXITIES.

ROSE FORTUNE'S YELLOW.

I THINK I can answer Mr. Isherwood's query about Fortune's Yellow Rose dropping its leaves (March 23, page 204), by telling him of one in the open air here. The tree is in a neighbour's garden and covers a very large space; one half, decidedly the bigger half, climbs up a tall Cypress, and flings its garlands of leaf and flower down from a height of at least 30 feet, in perfection of health and beauty. The other portion is trained on a south wall at the side and flowers most profusely, generally dropping, however, nearly all its leaves just as the buds open. Last spring was very unusually wet and cloudy on this coast, and I remarked that for the first time the branches on the wall did not lose their foliage as early as usual. Consequently, I should expect that by training the shoots at a much greater distance from the glass, and giving more air and some shade on occasion, this leaf-dropping may be avoided. It is evidently caused by a too sudden and fierce sun-heat, and too high a temperature in consequence.

Nice, France.

E. H. WOODALL.

[In many English gardens Fortune's Yellow

loses its leaves if trained on a bare south wall, but retains them if it is led through some other climbing plant of not too much foliage.—EDS.]

PROPAGATING EUPHORBIA WULFENI.

I AM sorry to hear from Mr. Milburn that the noble plant of Euphorbia Wulfeni in the Botanical Gardens at Bath, which was figured and described in THE GARDEN last June, vol. lvii., page 440, did not produce any fertile seed. I had the pleasure of seeing this plant when in full bloom in May last, and remarked at the time to Mr. Milburn that it seemed as if it would probably ripen plenty of seed for distribution. It will therefore be a disappointment to those who hoped to obtain some to hear that it has not done so. Can it be that the climate is not sufficiently warm enough? If I remember rightly, it is not exposed to the full heat of the sun, but is slightly shaded. Perhaps, like Lonicera hildebrandiana, it likes a roasting; and if Mr. Ewbank can obtain a plant he might try whether his genial climate would produce the desired result. Mr. Milburn tells me that the plant has wintered safely, and is now showing flower buds, so that we may yet hope that it will produce seed. Perhaps Mr. Ewbank will give us his opinion. ARTHUR R. GOODWIN.

The Elms, Kidderminster.

[We sent our correspondent's letter to Mr. Ewbank, who wrote the description accompanying the illustration referred to, and he kindly writes: "I have never thought of growing Euphorbia Wulfeni from seed. I think it will strike very well. Some cuttings I had from Bath last autumn are in a very promising condition, and I think will do well."—EDS.]

MELONS IN FRAMES.

WOULD you oblige by advising me how to grow Melons in frames from April to September? Any cultural advice would be much appreciated.

E. G. H.

[Melon culture in frames is most interesting, and, once the initial stages are understood and the fruits set, there is less trouble. In the first place, much depends upon the kind of frames, as, if permanent structures and heated, there is greater success. As you give no particulars as to the conveniences you possess, we will explain both systems—that is, heated frames and those that are not; while there is a third course—that is, a movable frame placed over a good body of heated manure. Many years ago this was a common mode of culture, but with so many glass erections during the latter end of the century very few grow Melons thus. It has its advantages, however, where house room is short and manure plentiful. There is one drawback, viz., the Melon roots have a tendency to go down into the rank manure, and, if not checked, make a gross growth and give few fruits. We will take frame culture first—that is, frames heated with hot water, and grown thus one plant is enough for an ordinary sashlight. The seed should be sown in a brisk temperature in small pots, the seedlings watered sparingly when above ground, and planted out when forming the third leaf, care being taken to keep the ball of soil and roots intact. About three weeks will suffice to raise the plants, and the bed should be prepared some time in advance to get warm. Use a firm or holding soil, say, about a bushel to each plant; no manures are needed, food being best given later on in the shape of fertilisers or liquid manure. In large pits or frames two plants may occupy one light, each running top and bottom. Plant very firmly and give, if possible, a temperature of 65° at night, with 10° higher by day, covering the glass with mats at night to retain warmth. As growth is made, stop the plant at 2 feet from the base, then lateral growths will push out. Regulate these and stop when, say, 18 inches or less, according to the space. These growths will then show both male and female flowers, and the latter ones will need to be fertilised at midday. Set as many as possible at one time, as, if only one sets, this takes the lead and the others fail. Until this period the plants should have been syringed early in the afternoon when closed,

but when in bloom keep dry overhead and ventilate sparingly until set, then syringe freely in bright weather. After setting the bearing shoots should be stopped at the second joint beyond the fruit. Give food freely and top-dress the roots with richer soil. Give more air as the fruits mature and less water both overhead and at the roots, but no root moisture is needed when colouring commences. In cold frames or on manures much the same advice applies, but more care is needed in watering and ventilation. The Melon is prone to causer at the stem, and in whatever way it is grown the stems should be kept exposed and away from drip or water. If decay shows at all, dress with powdered charcoal and fresh lime. To prevent gross growth in frames, sink a large pot level with the bed. When making the bed, fill this with good soil so as to start the plants. This with top-dressings will suffice, and will prevent gross growth and non-setting, which often happen in a rich bed. Here, of course, temperatures will fluctuate, but with care in ventilation good fruits may be grown. May is a good time to plant. We have seen excellent crops of Melons grown in cold frames without heat of any kind. These have followed early Potatoes. The chief points are to secure an early set, avoid crowding the plants, and remove useless growths as they appear.—Eds.]

THE YEWS AT ROCKINGHAM.

OUR illustration represents the famous Yews at Rockingham Castle, Northamptonshire. The inner court through the hall is laid out as a garden, and intersected by a double Yew hedge of remarkable character. It may be doubted, indeed, whether any such hedges exist elsewhere in England, though those at Rockingham are not without some affinity to the great Yew hedges at Cleeve Prior. The curious billowy character of the Rockingham hedges, which certainly form the most charac-

teristic feature of the whole place, will be better seen in our illustration than words could describe.

AMERICAN NOTES.

THE GLASS FLOWERS OF THE HARVARD MUSEUM.

IN the University Museum at Cambridge, Massachusetts, is a collection of models of flowers which is unique in its way and of absorbing interest to botanists, who come from all parts of the United States to see and admire it. This collection is known from one end of the country to the other, not only for its great scientific value but for its great beauty as well. It is called the Ware collection of Blaschka glass models of flowers. These were made by Leopold Blaschka and his son Rudolph, in Germany. Mrs. Elizabeth C. Ware and Miss Mary L. Ware of Boston have given this beautiful collection to the University as a memorial to the late Dr. Charles E. Ware of the Harvard class 1834.

The elder Blaschka died in 1895, leaving the secret of the glass flowers to his son, who still continues the work. There are now 578 of these models at the Museum, besides 2,424 illustrative details.

Dr. George L. Goodale, who is at the head of the Botanical Museum, and the director of the Harvard Botanical Garden, first conceived the idea of the glass models. For some years the Blaschkas, who then lived in Dresden, had been making models of glass of marine invertebrates and other animals for museums all over the world. Harvard possesses several of these models in the Museum of Comparative Zoology, and it was while making an examination of them that it occurred to Dr. Goodale that living plants might be copied in the same manner, with all their fresh colours and bloom preserved, without making any sacrifice to scientific accuracy. It was in 1886 that Dr. Goodale first visited the Dresden establishment of the Blaschkas and laid his plan before them. At first

Leopold Blaschka refused to attempt the task, but Professor Goodale was not easily discouraged. His enthusiasm was redoubled by the sight of a wreath of glass flowers that the Blaschkas had made many years before for the funeral of a relative. Thanks to the munificence of the Wares he was enabled to make them a princely offer for their services, and at last succeeded in engaging them to work for the Ware collection, exclusively for ten years, from 1890 to 1900. For some years the Blaschkas sent 100 models to the Museum annually, but since the death of the father the number has been reduced to about 25. Soon after undertaking the work for the Museum the Blaschkas moved to Hosterwitz, a town about ten miles from Dresden. Near by are the Royal Botanic Gardens at Pillnitz, and these, with the Botanical Gardens at Dresden, furnished them with plants from which the models were made.

Those who have seen this wonderful collection declare that the models do not look like glass at all, but that each has the sheen and surface of the living plant. The tiniest hairs are copied with marvellous fidelity to nature, and every part is finished with exquisite care and minuteness. A writer in the *Botanical Gazette*, speaking of the model of the thorny *Aralia*, thus describes it:—"The building up of the complex inflorescence, with its multitudinous minute flowers, is almost past belief. In this cluster, with its flowers so small that their structure can be seen only with a lens, while many of its buds are so minute as to be indistinguishable to the naked eye, I counted of buds, blossoms, and developing fruit from 2,500 to 3,000. And yet every flower has its five petals and five alternating stamens, with long filaments. I sought to find on the under part of the cluster some flowers perhaps less carefully done, as being practically out of sight, but they were all equal in their perfection. The immense compound leaf shows the spines scattered irregularly along the stalk and midribs. The pale under surface of the leaflets is quite invisible, owing to the position of the leaf on the card. Were every specimen in the



THE FAMOUS YEWS AT ROCKINGHAM.

collection to be inverted, the same accurate work would be seen."

Though made in such delicate material as glass, in many cases of exquisite thinness and fineness, yet the durability of these models is very remarkable. Of course great care must be taken in packing each specimen, with its details. The models are carefully wired to stout pieces of cardboard, which are firmly glued to the bottom of heavy pasteboard boxes. These boxes are then filled with tissue paper and packed in straw in wooden cases which are again bundled in straw and covered with burlaps. The stems are wired, and the glass is far tougher than it looks.

Rudolph Blaschka is now forty-three years old, not only a fine artist but an enthusiastic naturalist as well. He has twice visited America for the purpose of studying our flora, and it is probable that if his life is prolonged the Harvard collection will be one of the most unique and beautiful that the world has ever seen.

Washington, U.S.A.

D. DANDRIDGE.

AN ARTIST'S NOTE-BOOK.

NEW SNOWDROPS.

SUCH flowers of the early spring as these are always attractive, whether grown in the rock garden or border, or in the grass. Planted in Fern borders and thin shrubberies in quantity they make an effective display in the early months of the year. Unfortunately, some species have a tendency to die out in course of time, this failing being more noticeable in those plants which produce seed freely, as in the case of *Galanthus Elwesii*. Others fail to ripen seed in any quantity, but the bulbs increase rapidly, and in time form large tufts, like our native species *G. nivalis*, also *G. Alleni*. From the last-named I have never been able to get a mature seed.

We are indebted to the energy of Mr. Whittall, of Smyrna, for some of the more recent additions to this favourite genus, one of which will perpetuate his name.

G. Elwesii var. *Whittallii* is an early-flowering giant form of the type, with broad glaucous leaves and large flowers. It is worthy of bearing the name of its discoverer, who has greatly benefited the gardens of this country by distributing many bulbs and new plants from Asia Minor. A strong heavy soil is essential for the successful growth of this variety, which is here illustrated.

G. Elwesii var. *Cassaba* is a plant of great beauty, often attaining the height of 1 foot or more, with broad, slightly glaucous leaves, and large flowers. The basal and apical blotches on the inner segments are joined together by a narrow neck. A group of this variety in a Fern border is holding its own, although it does not increase. This also is one of Mr. Whittall's introductions.

G. Ikarie.—Another of Mr. Whittall's introductions. It was found by his collectors in the Island of Nikaria, off the west coast of Asia Minor. It is a very ornamental species, with broad, bright green, glossy arching leaves, which develop quickly after the flower has pushed up. While having the leaves of *G. Fosteri*, with the lobes of the inner segments of the perianth with crisped edges of *G. Elwesii*, it has the single apical blotch on the inner segments of *G. nivalis*. The flowers are very large and pure white, the segments being over an inch long. A large group of this species was

planted on a bank around and under a large Rheum. It is noticeable that the plants are much stronger and the flowers finer where the ground was covered during the summer by the large leaves of the Rheum, which kept the soil dry; outside the range of the leaves the bulbs are much thinner, although planted equally thick.

G. cilicicus.—Near *G. Fosteri*, but differing in its less robust habit and much narrower leaves, which taper gradually from the middle to the base. The markings on the inner segments are the same as in *G. nivalis*. So far this species has not been a success in this country, dying after the first or second year. It was collected



GALANTHUS ELWESII VAR. WHITTALLII.

(SLIGHTLY REDUCED.)

(From a drawing by Miss Alice West.)

by Mr. Siehe in the Cilician Taurus in 1896, and was distributed by him. The flowers, which appear from November to March, are large and handsome.

G. Alleni.—Although not of recent introduction this is still a scarce plant in gardens. Midway between *G. latifolius* and *G. caucasicus*, with a leaning towards the former, it is one of the handsomest of the whole family, having broad, arching, slightly glaucous leaves, and large flowers. A group of this is doing well and increasing rapidly on a warm south border, where the bulbs get thoroughly ripened during summer.

Royal Gardens, Kew.

W. IRVING.

ORCHIDS.

CYPRIPEDIUM MANDIÆ.

THE subject of the accompanying illustration, *C. Mandiæ* (*C. callosum* Sanderiæ × *C. lawrenceanum* hyeanum) is reproduced from a photograph taken in the collection of Mr. G. W. Law-Schofield, New Hall Hey, Rawtenstall.

The first plant I saw of this hybrid was exhibited by M. Jules Hye, of Ghent, at the Drill Hall at the close of last year, this form so closely resembling *C. callosum* Sanderiæ that the Orchid Committee did not see sufficient distinction to merit any award. Shortly afterwards a plant was exhibited by Mr. Worthington, and although the flower only differed slightly from that of the previous one from M. Jules Hye, the foliage was that of *C. lawrenceanum*; the plant was awarded a first-class certificate, but the owner failing to comply with the painting regulation the award was withdrawn. At the following meeting Mr. Statter sent a plant very similar to the others. Mr. Schofield flowered two plants almost immediately afterwards. These, it is strange to record, differed considerably from

the others, and the influence of the *C. lawrenceanum* parent predominates, as will be readily seen in the illustration. The dorsal sepal is white, shading to greenish yellow, and lined with broad green bands; the petals brighter yellow and longitudinally lined with green; the spots are deep green, the outer margin being thickly covered with prominent hairs; the lip resembles that of *C. l. hyeanum* in shape, and is greenish yellow, veined with a darker shade of green. The whole of these hybrids and the varied kinds I have seen among the plants raised from seed of *C. insigne* Sanderiæ illustrate the varied characteristics of seedlings in other genera of plant life. It would be interesting to have the opinion of others as to constitution and varied characteristics of hybrids belonging to the albino section of Orchids.

H. J. CHAPMAN.

DAFFODILS IN CALIFORNIA.

EVERYONE who is in the business of growing or selling seeds is aware of the rapid advances now being made in California in the line of producing

on a large scale certain classes of seed crops. Many of the leading seed firms of Boston, New York, Philadelphia, and Chicago have large portions of their stock grown in California, so that seed farms now form a prominent feature of the landscape in some of the most fertile valleys of the Coast Range Mountains; but hardly any horticultural journal has taken note of the great interest now being shown in all types of *Narcissus*, more especially in Daffodils, over large districts of that immense region known as California.

The area over which Daffodil culture on a large scale is easily practicable extends along the foothills and through many fertile sheltered

valleys about the Bay of San Francisco and many miles inland. Thousands of small gardens contain a few bulbs even now; here and there are growers who recognise the commercial future of this beautiful flower, and are extending their fields year by year, until, as was to have been expected, the San Francisco market is now overstocked, and flowers begin to seek other cities. Daffodils can be seen blooming in January in the open ground in many little gardens scattered over California, and often growing under wild conditions, receiving no more care than do our native weeds.

It must be remembered that the total area of California is upwards of 150,000 square miles, and experience has shown that a Daffodil will grow and take care of itself in a most surprising way over a large portion of the Coast Range and Sierra foothill regions, or more than a third part of this vast territory. The mild and rainy winters, the rainless summers, and the sunshine of these parts of California seem to suit Daffodils so well that they can be grown easily and cheaply, and with proper skill in packing they will soon be shipped to New York and other American cities of the Atlantic coast.

The time required for fast trains is now six days, but as we have no "parcels post" system in America express charges are enormous. Refrigerator freight cars are also very expensive, each fruit car, with ice, costing nearly \$500 from San Francisco to Chicago, and, of course, more to New York. There are now experiments being made in San Francisco with liquid air, and the inventor claims that he can carry flowers or fruit across the continent at a cost of \$5 per car for refrigeration. Such cars, costing less than half as much as those now used, and as light as passenger cars, could be attached to fast trains, and many of the early California flowers then would reach New York markets within six days—a period certain to be still moreshortened by the further progress of invention.

The earliest Daffodil districts in California, by choosing the best varieties, can have field-grown flowers in market before New Year's Day. As a whole, the season will range from December 20 to April 1, if all the districts adapted to Daffodil culture be considered.



CYPRIPEDIUM MANDLÆ. (Reduced almost one-half.)

Paper-white Narcissi begin to bloom in the field here, in Alameda County, by the middle of October. The blooming range of the Narcissi as a whole, taking all our districts, is, therefore, very long in California, because altitude, exposure, and early rains are all factors in the problem.

The leading Daffodil growers in California have obtained their stock from England or Ireland. Few buy in New York, and fewer

still in Holland, for there are many English-bred gardeners and horticulturists in California who retain their old country connections. This fact, joined with a growing interest in English horticultural books and periodicals, which appear much more frequently on the shelves of our public libraries and in the homes of our specialists than they did a decade ago, makes it certain that the names of Burbidge, Engleheart, Wolley-Dod, Barr, Ware, Hartland, of Miss Ellen Willmott, of Warley Place, and of other notables in the growing list of English and Irish Daffodil folk are lastingly planted in this new land.

Decidedly the most attractive Daffodil gardens that I know of are planted in old orchards, where the partial shade in summer does not injure the bulbs. In California the open or vase system of pruning orchard trees is universal, and trees are planted wide apart, so that much sunlight fills the interspaces. When such an orchard begins to decay it is not usual to replant with trees, as vegetables or flowers are gradually extended into the old orchard, which is left to bear its fragmentary crop as long as possible. Hence comes the quaint union of youthful Daffodil fields with aged margins of orchards, blooming in early February if of Almonds, or if the old trees are Apricot, Plum, Cherry, or Peach they can easily be grafted over to early blooming ornamental sorts.

Here at Niles some of our best Daffodil beds are overshadowed by Japanese Apricots and pink-flowered early Peaches.

One of the most promising collections of Narcissi—particularly Daffodils—in California is that of Mr. Carl Purdy, at Ukiah, Mendocino County, 100 miles north of San Francisco. This well-known collector and botanist, who has in press a monograph on the Calochortus family, is turning some of his attention to the

growth of Daffodil bulbs on a large scale, and probably grows more varieties at present than anyone else on the Pacific Coast.

But the most striking Daffodil garden in this region is that of Mrs. Ivy Kersey, of Haywards, Alameda County, on the western slope of the Monte Diablo range. The illustration shows hill-sides, native Oaks (*Q. agrifolia*), a few old orchard trees, and the January Daffodils. Flowers were gathered here before Christmas. The bulbs received no irrigation,



DAFFODILS IN AN ORCHARD IN MRS. KERSEY'S GARDEN, HAYWARDS, CALIFORNIA.



SYON HOUSE FROM THE PARK.

the natural rainfall being sufficient. The eastern edge of the valley, from San Leandro to San Jose (which includes Haywards), is all "early," and the foothills produce the best and earliest vegetables sent to San Francisco. Three or four hundred feet above the valley are places where French Beans and Tomatoes grow and bear fruit all winter without shelter. Such a region as this is certain to be dedicated to the higher uses of horticulture. When Macaulay's mythical New Zealander returns from his famous meditations on the ruins of London (may that time be as remote as Atlantis!) he will possibly attend a Daffodil Conference in some as yet unbuilt metropolis of California.

CHARLES HOWARD SHINN.

WORKERS AMONG THE FLOWERS.

MR. GEORGE WYTHES,
V.M.H.

IT is a pleasure to include among our "Workers Among the Flowers," one of those good gardeners of these isles, one of a large and enthusiastic band of men who have furthered in their own way the love for horticulture in our midst, and shown us ways of cultivating fruit and vegetables in particular, that have an important bearing upon horticulture in its commercial aspect. As may be seen from our own pages, and from those of *Country Life*, the gardens of England are amongst the fairest features of the land, gardens of immense extent and

varied design, and those in which all the great lessons taught by Nature herself are faithfully portrayed. We would not for a moment give entire credit to the gardener for the beauty and interest of every place under his charge, but we know how much his quiet and good work is responsible for the splendid keeping displayed, not merely in the pleasure grounds

and woodlands, but in those more domestic quarters of the garden which supply the comforts of the table.

We are proud that many of England's best gardeners are contributors to *THE GARDEN*, and one of this number is Mr. Wythes, a reproduction of whose portrait accompanies these remarks. For many years Mr. Wythes has recorded his experience in these pages, and assisted in many ways to bring horticulture into the foremost rank of pleasurable and profitable pursuits, and for this reason, that several of the vegetables we enjoy upon our tables have been raised through his skilful hybridisation and selection. Among Potatoes, for instance, he has raised Syon House Prolific, English Beauty, and Main Crop, and the man who can give to the world improved and new kinds of a food so important and wholesome deserves our thanks. There is greater romance about raising a beautiful Orchid, but a good and new Potato is an introduction of sterling worth to peer and peasant. In company with several other gardeners, whom we hope to include in this series, Mr. Wythes has given solid testimony to his skill as a gardener, and as a raiser of new things by his management of the gardens of historic Syon House and Alnwick Castle. We show views of the lake and house of Syon, but as this domain of noble trees has

been described in *THE GARDEN* previously, it is unnecessary to make further reference to them at present. All we can say is that of the many beautiful places in the environs of London, none contains trees of greater interest than those of Syon; many, indeed, are famous throughout the world, and among the first of their race introduced from



THE LAKE AT SYON.

foreign lands. Other vegetables raised are Progress and Early Favourite Beans, and certificated by the fruit committee of the Royal Horticultural Society, while of Cabbages, the autumn variety, St. Martin, was raised at Syon, and was also certificated recently. This was the outcome of crossing Christmas Drumhead and Rosette Colewort.

Those two excellent Melons, Beauty of Syon and Syon House, were raised at Syon, as their names indicate, and Mr. Wythes is also responsible for the dwarf race of *Campanula pyramidalis*, distinguished by the name of "Compacta."

Of course, to know whether a gardener is worthy of his reputation, one must see the gardens under his charge, and as many gardeners—we use the word in its broadest sense—are aware, to spend a few hours at Syon is pleasurable, and to the younger members of the calling profitable also. There one may find the Vanilla grown to perfection, Bananas, and all the attributes of a splendid English domain, while the pleasure grounds are filled with groups of the best hardy flowering shrubs. We have written sufficient to show that the gardener who loves his work has a great influence upon the English gardening, and when one is placed near London, as Mr. Wythes is, many outside duties are performed willingly for the benefit of fellow workers. Mr. Wythes has been for many years a member of the committee of the Royal Gardeners' Benevolent Institution, of the fruit committee of the Royal Horticultural Society, and is one of the Victorian Medallists of Honour. He is a sound judge, a successful exhibitor in the past, and throughout his career has interested himself in horticultural societies. When gardener to Lord Hatherton, Teddesley Park, in Staffordshire, he was secretary of the important Teddesley Park Society, which included nine parishes.

In gardening, as in all other walks in life, only perseverance and true devotion to duty mean success.

CHRYSANTHEMUMS.

POMPONS AS DECORATIVE PLANTS.

IT is difficult to understand why the pretty little Pompon Chrysanthemums are so neglected, even by those who wish for plenty of cut flowers. Isolated instances could be mentioned where these dainty blossoms are fully appreciated for the purpose under notice, and even in these cases anything like a representative display is rare.

The Pompon Chrysanthemums are of easy culture, and the flowers possess a charming variety of colours, and vary from the smallest button-like flowers to those of medium proportions. The bushy habit of the plants is another point in their favour.

Many growers propagate much earlier than is really necessary, the only advantage of this early work being that of developing plants of larger size. At any time during the spring and early summer the propagation of the Pompon sorts may be taken in hand with every prospect of success. Plants raised thus late do not, of course, attain the proportions that those struck earlier do, yet they are quite large enough for most purposes, and are not so long under cultivation. From an April propagation plants are developed, each of which in the flowering season will be found carrying a large number of flower sprays. Some

sorts are much prettier than others, developing quite freely, yet without undue crowding flowers on a convenient length of footstalk. It is a great mistake to severely disbud, as is commonly practised by growers for exhibition. The Pompons never look better than when they are grown freely in sprays. All that is necessary in the case of the more crowded buds is to thin them out slightly. When pinched up in the usual way their charm is gone, and it is a mistake to grow them in the usual way for exhibition blooms.

A few of the more noteworthy varieties are:—William Westlake, the finest example of the larger-flowering Pompons; the colour is a beautiful rich canary-yellow, sometimes tinted red. It is a mid-season variety, developing large blooms when disbudded to about twelve blooms to each plant, and is a superb sort when grown without disbudding. The plant is robust and of an excellent habit of growth. A striking contrast to the last-named is William Kennedy. This, too, is a fine



MR. GEORGE WYTHES, V.M.H.

large bloom when disbudded, and the colour is a lovely crimson-amaranth. The best of the bronze Pompons is Mr. Holmes, an old variety, rarely met with nowadays. This variety when at its best has rich deep bronze-coloured flowers. Comte de Morny is still regarded by some with favour; it is of a distinct bright purple colour. Rosinante, blush rose, and Mrs. Bateman, a buff sport from the last-named, are two sorts which have a special charm for me. Rosinante is very pleasing in colour. To see these varieties at their best, the plants should be disbudded, the length of flower-stalk being very limited; the plants are very dwarf and robust. Another distinct sort is Osiris, more often seen on the exhibition table than anywhere else. Either disbudded or naturally grown, it is a very refined and pleasing flower, the colour being a soft rosy pink, edged with gold. Rubra Perfecta is rather later in its period of flowering than most others. It is a large flower when severely disbudded, and its rich purplish crimson colour and golden reverse give it a striking ap-

pearance. Another flower very similar in form to the last-named is Perle des Beantes, which is amaranth-crimson colour with bronze reverse. This also is rather later than the majority. A pretty little plant is Florence Carr, which has medium-sized, deep bronze-coloured flowers with golden tips. The two gems for late work are undoubtedly Snowdrop, pure white, and its yellow sport Primrose League. They are better when grown without being disbudded, developing into ideal decorative plants with handsome sprays of miniature blossoms, which are unsurpassed for decorative uses. For late November and early December displays they have no equals.

Before closing permit me to refer to two or three of the late October sorts. These are best represented by Mlle. Elise Dordan, the rose-pink globular Pompon which should always be partially disbudded, and which is without a rival to-day. Yellow Gem, a fimbriated yellow Pompon, which should be grown naturally, no disbudding whatever being permitted. The plant develops into a perfect bush specimen and each flower is on a nice length of footstalk; and Vesuvé, unrivalled for late October displays. The last-named is very much like a miniature Japanese Chrysanthemum, with pretty twisted florets and a rich crimson-red colour, tipped golden yellow. In this case disbud slightly. D. B. CRANE.

THE FLOWER GARDEN.

PLANTS FOR EDGING.

A HARD, cold-looking edging will spoil the prettiest garden. Tile, which frequently splits in winter, slates, and wood are abominations, wood perhaps the least objectionable of all, but this breeds fungi, and looks unpleasantly formal. Soft stone, or stone from the district, makes, with plants planted between or at the sides, a delightful edging. The plants *Cerastium*, *Aubrietia*, *Gentianella*, *Saxifrage*, *Stonecrop*, *House-leek*, or whatever may be used, cover the stone in time with their cushion-like growth. One of the prettiest edgings is that composed of the ordinary white Pink and Mrs. Sinkins, or any other variety. I also admire the fringed Pink of the cottage garden. In a description of a well-kept garden, where the Pink was used as an edging, the writer says: "On entering the garden one is struck by its neatness and order. What was taken at first glance as well-kept *Cerastium* proved to be nothing but the common white Pink. As a bordering I never remember having seen anything more pleasing or neat, and it certainly looked better than the sombre Box or formal red tiles." One thoroughly enjoys the perfumed flowers in early summer, and the silvery tufted growth at all times.

The Pink is as charming in winter as it is in summer. Spring is the time to form a Pink edging. Plant the tufts thinly, sufficiently deep to bury the stems, and then make the soil firm about them. Thrift or Sea Pink (*Armeria vulgaris*) is another pretty edging, the time for planting which is the spring; and the following is a list of other things suitable for this purpose:—

Arabis, *Aubrietias*.—The purple colouring of the *Aubrietia* flowers is very rich in spring. We enjoy masses of growth rambling even on to the walk.

Alyssum.—A. saxatile, the yellow flower of spring so frequently seen in rock gardens and in the borders, is very useful as an edging of the rougher kind.

Daisies.—The double crimson in particular, but the Daisy enjoys a cool soil, and is not always satisfactory as a permanent edging.

Gentianella.—This must be planted in a prepared moist soil, loam for preference. It is not happy everywhere, but where it succeeds forms a perfect mat of growth. When it becomes flowerless, replant it. Mr. Wilson has yards of edging of it in his

beautiful wood garden at Wisley. *Gentiana acaulis* is its botanical name. It may also be planted between the soft stone where this is used.

Saxifragas.—The London Pride (*Saxifraga umbrosa*) is a well-known plant for edging; its slender stems of pinky flowers are very pretty and "misty." Where stone forms the foundation of the edging, make free use of Stonecrops, not forgetting the common *Sedum* acre and its yellow variety aureum; the shoots are tipped with yellow in early spring days.

We do not object to a good stone edge of rather hard stone set on edge; it is neat and warmer in look than tiles, especially of some patent make. Grass edgings look well, but are a source of endless labour to keep neat, and an unkempt grass edge is an eyesore. Frequent mowing and clipping at the side are essential to keep this form of margin respectable. Ivy of a good green-leaved form, say Emerald Green, or the Irish Ivy, are useful where a rather tall edging is desired. It is useful to form an edging to a shrub group or large run of walks. It must not be overdone, otherwise the garden will appear dull and heavy. Box, of course, is one of the good shrubby things found in many old English gardens. But it must be cared for by frequent clipping, and spring is the time to repair deficiencies. There is one objection to Box as an edging, and that is, it harbours slugs and other pests. E.

MARGARET CARNATIONS AND THE WINTER.

So far my plants of Margaret Carnations have come through the winter unharmed. They were planted out on a rather heavy piece of ground early in the summer, but owing to the prolonged drought they made but little headway until the late summer rains came, then they made a free growth and gave some blossom, but too near the shortened autumn days to display their beauty to the best advantage. My cold frame being full of biennial Stocks and such like, they had to remain in the open, though I doubted their capacity to stand through the winter. During the sharp frost of the early part of February they appeared to be much affected by it, but the last few days of spring-like weather has wonderfully revived them, and I am happy to say every plant has retained its vitality. It was supposed that the blood of the annual type in them would render them unfit for winter exposure in the open, but I can point to my patch of over 100 plants and say the Margaret Carnations can be treated as biennials in the open. They have to commend themselves to the lovers of flowers. They are of free growth, they bloom abundantly, they are mostly fragrant, and they produce flowers of many colours, large, full, and excellent for cutting. While Wallflowers, Sweet Williams, and a few other things show how severe was the tussle with the February frosts, the Margaret Carnations are sound and whole. The biennial Stocks also felt the soreness of the trial; a batch of plants of the giant white Brompton and one of the white Intermediate are a hopeless mass of corruption. Stocks in a cold frame with the protection of glass have wintered well, and in a few weeks will go out in the open to blossom. The risks of winter are great, but some precious things come safely through it to our great joy.

R. DEAN.

THE FRUIT GARDEN.

MELONS IN POTS.

I HAVE read with great interest the notes that have appeared in the pages of THE GARDEN about Melons, but I have not noticed any reference to growing Melons in 10-inch pots. I have followed this course now for several years with great success. My system of cultivating them is as follows: The plants are raised in the usual manner, and I use for soil a rather heavy loam, rammed firmly in the pots, which are not filled more than two-thirds of their depth. On this the plants are placed,

and sufficient soil added to just cover the ball. It is then left until the roots protrude through, then more soil is added to fill the pot up to the usual height. The pots are placed in a small stove with a temperature of about 65° at night, with 10° rise by day. The pots are put about 15 inches apart, and the plants grown on the single cordon principle. It is surprising how quickly fruit begins to show, and as soon as two or three female blooms expand they are fertilised and usually set very freely. One or two fruits may remain on. If only one fruit is left the average weight with me is about 3½ lbs. I have grown as many as four fruits on a plant, but of course the fruits would only be a little over 1 lb. each, but the flavour leaves nothing to be desired. The plants are grown on a staging, with a bed of fine cinders underneath; the roots are soon attracted through the bottom of the pots, and they can then be more easily fed with artificial or liquid manures.

I have never had any trouble with stem disease or the splitting of fruits since I have adopted this plan, but previous to that I found it almost impossible to grow Melons in my house on account of the trouble which I had with the disease.

CHAS. EDWARDS.

Trewyn Gardens, Abergavenny.

FIGS UNDER RESTRICTION AT GUNNERSBURY PARK.

HAPPENING to call at Gunnersbury Park a few days ago I found Mr. George Reynolds planting the northern end of his Fig case, which is in three divisions. The other two parts of this case contain plants that were planted in the border, which is only raised slightly above the ground level. Some of them probably had occupied this position for half a century, and their roots had in time got away far beyond the confines of the house. Though on the whole excellent crops of fruit had been gathered from these trees, circumstances had from time to time arisen which convinced Mr. Reynolds it would be expedient to have the trees under more perfect control, and he conceived the idea of planting them in brick pits, in which the roots could be confined.

Five pits were therefore constructed, each 8 feet in length by some 3 feet or so in width, and the same in depth, divided from each other by a brick wall, and so the roots of one tree cannot poach on the preserve of the other. The bottom of each pit is a concrete floor, with an opening so that excess of moisture can pass away. On the floor is placed 5 inches or so of drainage; over this is placed some turves, and the pit filled in with a compost made up of fibry turf which has been laid by for a time, lime, mortar rubbish, and charcoal, with the addition of about 2½ cwt. of bone flour to three loads of soil. This was rammed well down until the pit was filled to within 1 foot of the top, and then the trees, of good sizes and finely rooted, were planted. The Fig sends out a great mass of cord-like growths, and these were stretched out to their full length, carefully placed in position, and the soil filled in, being well beaten down as added. Mr. Reynolds believes in a firm soil for Figs, hence the ramming down process.

Figs are largely grown at Gunnersbury, and they are much appreciated by the Rothschild family, and though the effects of London fogs are keenly felt at Gunnersbury, and render the proper setting of the fruit blossom a matter of great difficulty, Mr. Hudson was able to gather his first crop of Figs during the third week in January, of course from plants in pots, and the supply from Mr. Hudson and Mr. Reynolds goes on almost throughout the year. Fruit growing, both at the park and at the house, is now carried on on an extensive scale, and these two clever gardeners are able to keep their employers' tables furnished from year to year, though they would much prefer an atmosphere less tainted with the impurities which find a place in London fogs, the effects of which are more severely felt as London grows from the centre to the circumference, filling the available open spaces with miles of streets and houses.

R. DEAN.

COLD OR COOL STORAGE OF FRUIT.

THE VALUE OF ICE WELLS.

YOUR correspondent, when he spoke of the possibility of seeing fruit of every kind kept in good condition for twelve months or years without loss of flavour or deterioration, must have had in his mind "Lawton's patent process of preserving fresh fruit." The *Daily Mail* of March 21 says: "For the past three weeks Bananas, Grapes, Pine Apples, and other fruit from the Colonies have been enclosed in a special chamber in Hatton Garden for the purpose of demonstrating Lawton's process."

"The fruit was preserved in a sterilised atmosphere." Now there is nothing wonderful in keeping fruit of that description three weeks or three months in good condition. Let us hear how it can be kept for six or twelve months. Can the softer fruits, such as Cherries, Plums, Peaches, or Strawberries be kept without loss of flavour? A good judge has said more than once that you may as well eat a Turnip as a Peach without flavour. I cannot believe that a Peach kept in a chamber (however scientifically arranged) for weeks or months would compare at all favourably with one thoroughly ripened in the sun, and kept only a few days, as the case may require, say for show or other purposes. This brings me to the question of ice wells. Why not utilise them for fruit stores, or construct chambers on the same principle. Where money is no object they could be made into capital fruit rooms, more like underground dairies, never too cold or too hot, no firing of any description required in the severest of weather, and no damping down in the summer.

Mr. Crump, it appears, has begun in the right direction with a 7 feet excavation for his fruit room; 14 feet deep would be better, maintaining a more equable temperature all the year round. We can produce British-grown Apples and Grapes all the year round by keeping them in makeshift fruit rooms, but not without some shrivelling. I have had Blenheim Orange Apple good in March; Court Pendu Plat and Ashmead's Kernel much later; the old Norfolk Beaufin and Northern Greening until the early Apples were ready to gather. For several years I was able to place on my employer's table old and new Grapes in June—Black Hamburgh, Lady Downes, and Mrs. Pince. The latter used to shrivel very much after January, but the flavour was more like a Raisin. The fruit room I had to deal with was by no means an ideal one, with a slate roof situated over tool sheds, and with a stove to keep out frost, which I used as seldom as possible. Wooden shutters outside the windows were a great protection. I remember on one occasion the frost got in badly, and the cook was the first to ask what was the matter with the Apples. They were frost-bitten, and decay set in sooner.

Now let me relate a little experience I had with a blue Imperatrice Plum on a south wall. In the winter of 1890-91, I think it was, Plums were hanging upon the tree on Christmas day and on New Year's day after being subjected to 20° of frost. A dish of English-grown Plums from the wall on New Year's day was certainly a novelty. Someone may ask, What about the flavour? I can't say much for that; it was impaired, and decay soon followed. Strange to say, they remained plump to the last. Frozen meat may be good, but frozen fruit is not. After all, is it necessary to preserve fresh fruit beyond its proper season when Strawberries can be made into jam, and Cherries, Plums, and Peaches preserved whole in bottles? Moreover, the Colonies can supply us with fresh fruit when ours is out of season. Cape Peaches have been seen in the shop windows for some time. I have had no experience of the flavour.

Cardiff.

J. S.

My name has been introduced in your leading article of March 16, and also by Mr. Wythes on page 180, with reference to the cool storage of Apples and Pears as practised at Madresfield, fruits having previously been sent to the Drill Hall. As a matter of fact, we are of opinion that the thorough ripening and the proper means of

storing the above fruits do not generally receive half the care and attention that the matter deserves, especially by those who really require a long, successional supply of firm, well-conditioned, home-grown fruit. In our modern fruit rooms utility is frequently sacrificed by architects or builders for structural appearance. We ourselves were victims to this policy, and owing to the dry, arid atmosphere of our fruit room we found it impossible to keep Apples firm after March, and nothing that we could devise would prevent shrivelling and toughening of the fruit, comparatively useless and disappointing where a long supply of home-grown fruit was required. However, "necessity is so often the mother of invention," that we commenced trying experiments. First we tried placing the fruit in barrels, on the American plan, as gathered from the trees. This preserved the firmness of the fruit, but from being packed in bulk the flavour was very much impaired, and the fruit appeared to lose its juiciness and briskness of flavour. At that time the bulk of those kinds had to be purchased from the farm, but now our own surplus runs into tons; but even this would not, under the old system of storing, maintain the required supply after the month of March. Our next experiment was in an ordinary cellar, and here we found that the fruit kept firm and as sound as when gathered several months longer. In fact, we were so convinced of the advantages of an underground cellar that we decided to at once adopt the Irishman's method of raising the roof of his cabin, viz., "by lowering the floor." We consulted a builder, and he undertook to excavate the interior of the room so as to form an additional 7 feet for shelves, underpinning the walls to form the cellar. Iron girders were thrown across and the original floor was replaced thereon; an opening shutter was let in the floor of the interior at the one end, and another door through the outer wall at the other end, giving access both from the exterior or interior, and so as to give ample and necessary ventilation during the sweating operations, shortly after being gathered. A current of air is thus allowed to pass through the underground stores of long-keeping fruit, until the skins have parted with their surface moisture, and then, taking advantage of a cold morning, I shut up the cellar with the coldest air, only ventilating again when we can exchange a fresh supply of cold air. The more moisture on the floor the better. The important point is to well dry the surface of the fruit before finally closing. The fruit may be placed in two or three layers or singly. The best temperature we consider about 40° to 45°. Cool storage with co-operative fruit growing would revolutionise our home productions in a commercial sense if thoroughly applied.

Madresfield. W. CRUMP.

RATIONAL STORAGE FOR APPLES.

THE proper mode has been given so far as fruit rooms for private consumption are concerned, and my building has been often quoted and described. It may shortly be called a common-sense store: but I cannot too strongly impress on all those who wish to keep their fruit firm, fresh, and for a long period, that it is most important that it should first be well matured on the trees, then be very carefully gathered, and finally be laid, without bruising, on the shelves, and that the floor be always kept moist. Capital storage is ready to hand in

the many oast houses which exist in Kent and Sussex, as the Hops are generally gone and the oast cleaned out before the Apples for late keeping are gathered. There is no doubt these substantial buildings are suitable both on the ground floor and the first floors. But the former keeps the fruit best.

The usual plan is for women to sort the fruit as it comes in, and to lay it out carefully on clean straw in heaps of one sort up to 3 feet deep. After these heaps have "sweated," they are covered, to keep off dust, &c., slightly, and then as frost becomes probable they are covered, 1 foot deep, with straw quite fresh and clean. In these heaps the fruit keeps sound and plump, and they are stored into January or March according to the market price.

Naturally a dry fruit like Blenheim Orange keeps better than Wellington, which rots into a pulp. But the great difficulty is, that so many kinds are grown that a continual supply of well-known sorts cannot be kept up. I have advocated the erection of large stores, where fruit from a district could be collected in large quantities. I am told that a firm of salesman did this in a plentiful year, buying up at a low price all suitable "keepers" they could lay hands on, and this not only helped prices of other sorts at the time, but they placed them, after five months' storage, on the market at a large profit, showing that combination would pay if it could be extensively carried out.

The sorts now most favoured for late sale are Wellington, Blenheim, Winter Queening, Northern Greening, Deux Ans, Norfolk Beaufin, Cox's Orange Pippin, Golden Knob, and Wyken Pippin; and, locally, Hanwell Souring, Grange's Pearmain, and Court Pendu Plat. But in a few years there will be a large growth of Tower of Glamis, Newton Wonder, Bismarck, Hambling's Seedling, Royal Jubilee, Lane's Prince Albert, and Bramley's Seedling.

Year by year the home-grown supply gets larger, and it may be possible to keep up a regular supply when a system of storage is largely adopted, and it is in this direction that English Apples for the English public may and can be provided. The largest crop ever grown was perhaps in 1900, and

yet it is a fact that better prices have been obtained for keeping Apples than in previous years.

GEORGE BUNYARD, V.M.H.

The Royal Nurseries, Maidstone, Kent.

TREES AND SHRUBS.

WEeping CHERRIES.

A WEeping habit accords much better with the flowers and mode of flowering of some trees than it does with that of others. In no instance, however, can it be said to heighten the natural beauty of trees, or add more to their grace, than it does in the case of the weeping Cherries. The beauty of the flowers, which in many instances are themselves drooping or pendent, seems especially to require the accompaniment of free graceful lines rather than anything in the shape of a stiff or erect mode of growth. Very few Cherries, however, in either their typical or selected forms, are other than graceful; and of the weeping ones it can in most cases be said that they merely accentuate that characteristic.

The use of weeping trees in gardens, like that of all plants which depart from the normal either in form or colour, requires restraint, and the more marked or violent the divergence is the more are these required. To the weeping Cherries, happily, these words scarcely apply. There are very few that, from considerations of beauty and fitness, could reasonably be overplanted. In the following notes I have given the names of the best of them, with a few descriptive words to each. There are three kinds of weeping Cherries, as of the weeping kinds of other genera: First, we have such a species as *Prunus pendula*, a natural weeper, which comes true from seed; second, there are pendulous forms of species that normally are



WEeping VARIETY OF THE CHERRY (*PRUNUS AVIUM PENDULA*).

erect, which have to be trained up, or budded on more or less lofty standards; third, there are dwarf or prostrate species, naturally shrubs, which, by being worked on standards of other sorts, are made into artificially weeping small trees.

The word "Cherry" is here made to apply to the old genera of *Cerasus* and *Padus*—the "Cherries" and "Bird Cherries"—but in accordance with modern usage the generic term "*Prunus*" is employed.

Prunus acidula semperflorens (All Saint's Cherry).—This interesting and pretty variety of a dwarf Cherry is noteworthy in two respects. It has slender, pendulous branches, quite different from the Wild *Prunus acidula*; and, secondly, it has the rare quality of continuing to flower from late spring to autumn. At the latter season fruits and flowers may usually be seen together on the branches. The flowers are white and single. I have not met with this little tree more than 6 feet to 10 feet high, and it is usually budded on standards.

P. Avium pendula.—The weeping variety of the Gean is perhaps less elegant than any of the weeping Cherries. The branches are perfectly pendulous, but stiff and straight, the effect consequently is somewhat formal. In some positions, however, this may be thought to be an advantage. In its foliage and in its single pure white flowers it does not differ from the Gean—a tree native of Britain. It should be budded on high stocks of the type.

P. Chamæcerasus pendula.—The Siberian Cherry, as this species has been termed, is a shrub with small, ovate or obovate, dark green glossy leaves. Its flowers are borne in May in short clusters, and each flower is less than 1 inch in diameter and white. The pendulous form when budded on standards makes a pretty, rather mop-headed little tree.

P. Mahaleb pendula.—The Mahaleb is well known for its remarkable profusion of pure white blossom and its free, graceful habit. In this variety the pendent character of the branches is not unduly marked, but is sufficient to add greatly to the beauty of the tree. It is not only one of the best of Cherries but of all flowering trees, and is as well adapted for planting in groups as it is when isolated as a single specimen. The flowers, which appear late in April or in May, are borne on short racemes and in such abundance as to envelope the tree in a snow-white mantle. Every garden should have at least one weeping Mahaleb. There is another weeping form of this species, introduced a few years ago from the continent. It is named "*pendula Boninini*," but I have not had sufficient experience with it to be able to say quite definitely what its value is. But no doubt it flowers with the same profuseness as other forms of the Mahaleb, and as regards habit it is apparently the most distinctly pendulous of any. It is probably in this that its chief claim to notice consists.

P. Padus pendula.—A weeping variety of the common Bird Cherry will, no doubt, be an acquisition, but it is of too recent appearance here to say much about it. It is curious to note that there is a variety (*stricta*) with an exactly opposite tendency, branches and racemes being quite erect. *P. virginiana*, a nearly allied Bird Cherry from North America, is also represented by a pendulous form.

P. pendula (*Cerasus pendula rosea*).—The name "*pendula*," which so often does duty to distinguish a variety, is here a proper specific designation, having been given to this Cherry by Maximowicz, the well-known botanical traveller in North Asia. *Prunus pendula* is as naturally pendulous in habit as the Babylonian Willow is, and it should, if possible, be obtained

on its own roots. It is an early-flowering kind—probably the earliest of the Cherries—being in bloom as a rule soon after April comes in. The flowers are of a lovely shade of delicate rose, but are not large. They are, however, freely borne, especially after a hot, ripening summer and autumn. In the United States it succeeds even better than here, and by some authorities is regarded as the loveliest of Japanese trees introduced to that country. So much cannot be said of it in Britain, but it is well worth cultivation for its beauty and earliness.

P. Puddum (Himalayan Cherry).—Like the preceding species, this Cherry is of a naturally pendulous habit, that character, however, being most marked in its lower branches. The specific name, which, to say the least, lacks elegance, is probably a native title for the tree. The species is very rare in this country, but in good years almost rivals the Mahaleb in the profusion of its flowers, which are white with a rosy tint. It is a true Cherry (*Cerasus*), and bears a very palatable fruit.

P. serotina pendula.—The "Rum Cherry" or "Wild Black Cherry"—for it is known in North America under both these names—is not one of the best or most popular of Cherries in this country. It belongs to the *Padus* section, and may be roughly described as a deciduous tree with very dark green shining foliage, like that of the Portugal Laurel, and producing in June racemes of dullish white flowers like those of the common Bird Cherry, but even more abundant. The weeping variety is rather symmetrical, even formal, in habit, but is a distinct and pretty tree. Both species and variety are in the latest-flowering group of Cherries. B.

THE BIRMINGHAM BOTANICAL GARDENS AND MR. LATHAM.

IN common, I am sure, with many other of your readers, I was highly pleased to see so good a portrait of "our oldest curator" in your issue for March 16, page 182. The Birmingham garden is a famous one, and was laid out by the late John Claudius Loudon, when on his wedding tour with the fair authoress of "*The Mummy*," a work which, having attracted his attention, led to his meeting with his future wife. The Loudons remained six weeks at Birmingham, Mrs. Loudon's native town, in the year 1831, while he laid out the Botanic Gardens, which, as Mrs. Loudon herself relates, in "*Self-Instruction for Young Gardeners*," page 36, "he had agreed to do merely on the payment of his expenses." Mr. Loudon was very fond of *Cratægus* and other rosaceous trees and shrubs, and, as Mr. Latham incidentally tells us, planted an extensive and select collection in the lower portion of the Birmingham garden, of which but few, if any, remain to-day, except it be a very fine and healthy old Cherry tree. There is, however, in the Birmingham garden one of the finest groups of specimen Magnolias to be seen anywhere in Great Britain, such as tall trees of *M. acuminata*, and a fine bush of the green or creamy white flowered *M. apiculata* (= *M. Fraseri*), of which a beautiful coloured plate appeared in *THE GARDEN* some years ago.

Birmingham and its district have long been noted for its gardens and for the energy and enthusiasm of its amateur gardeners. The late Mr. George Barker, of Springfield (*Barkeria*), Mr. John Wilmore, of Oldfield (*Erica wilmoreana*, &c.). Mr. Wilmore's gardener (Mr. Williams) was a successful hybridist, to whom we are indebted for *Erica hyemalis*, and many of the early cross-bred *Calceolarias*, &c., were raised by him. Mr. W. H. Osborn, of Perry Barr, near Birmingham, was also a noted cultivator of *Hibiscus splendens* and other good plants then very rare. One of the early benefactors of the Birmingham garden was Mr. Fry, for many years a resident in Brazil, whence

he sent many importations of rare and valuable plants. Mrs. Wilmore, of Strawberry Vale, and Mrs. Catherine Shaw, were noted lady amateurs, Messrs. John Pope and Son then being very spirited local nurserymen.

The first curator was Mr. David Cameron, A.L.S., who was in many ways an ideal curator, and a friend of J. T. Mackay, of Dublin, and of the McNabs, of Edinburgh. He was also a friend of Messrs. Knowles and Westcott, who started a publication called "*The Birmingham Botanic Garden*," or, *Midland Floral Magazine*," which ran from 1836 to 1840. This work was succeeded by the "*Floral Cabinet and Magazine of Exotic Botany*," 3 vols., 4to, with coloured plates and notices of many rare plants grown in the Birmingham gardens or in the district. The last-named work began in 1837 and ended in 1840. The great Loudon collections of this date were Messrs. Rollisons, of Tooting; Messrs. Low, of Clapton; Messrs. Loddiges, of Hackney; Messrs. Knight, of Chelsea; Messrs. Chandler, of Camellia fame; Messrs. Osborne, of Fulham; and Messrs. Henderson, of St. John's Wood; and Mr. James Bateman was about astonishing the floral world by the publication of his great work on the "*Orchids of Mexico and Guatemala*," (1837—1843). So far as I know no other provincial botanical garden seems to have exerted so much practical and literary influence as did that of the Birmingham Botanical and Horticultural Society in the earlier years of its existence. Mr. Latham has proved a worthy successor to D. Cameron and Catlin, the two first curators, and he is to be congratulated on his long and faithful guardianship of the Birmingham Botanical Gardens for a period of over thirty years. F. W. BURKIDGE.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

DOUBLE VIOLETS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—On page 127 my name is mentioned in connection with the culture of Violets, both as regards their behaviour here this winter and as to the position they occupy in summer. On this latter point I wish to point out to cultivators that in choosing a site to grow Violets in summer consideration should be given to the nature of the soil and position of the garden. Through this not being done many errors are made. During the past four or five years our plants have occupied the same position in the open garden, the ground rising slightly towards the north. We add fresh soil every year, and this is the top surface from an outside vine border, this being the decayed manure, &c., that has been used for mulching the vines. This is put on the top and exposed several weeks before being worked into the soil for the air to pulverise it. In our low-lying situation, with a moist atmosphere, red spider does not trouble us as it does in a dry soil and hot air, and were we to grow our plants in shade I am doubtful of our present success. In hot weather the plants are syringed or damped every day, mulching with old spent Mushroom manure. Although I grow them in this way, I do not advise this method on hot, dry soils, or where the rainfall is small. As I have proved the plants were more satisfactory in partial shade. We grow a portion on a south border in front of glass houses. These are allowed to remain here through the winter, placing old lights over them. The rainfall is considerably less in Norfolk than here. This has much influence on many things, as I proved when residing in Norfolk. J. CROOK.

Forde Abbey, Chard, Somerset.

WALL GARDENING.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Your note, page 217, on this subject reminds me of two examples of this form of cultivating alpine plants. One is in the gardens at Trinity

College, Dublin, where Mr. Burbidge has built a rather low wall to hide a portion which is common in all gardens—the receptacle for refuse, commonly called the rubbish heap. This wall was partly hollow, or so constructed that the plants growing on the top could easily find space in a downward direction for their roots. Here the Edelweiss was luxuriating, and so were many things—Saxifraga, Aubrietia, &c. The other example is at Aldenham, where Mr. Beckett has established many interesting subjects on the top of a stone bridge. Many interesting yet natural objects of wall gardening are to be seen which no doubt were accidentally established by birds, as for instance, close to where I write there are any number of wall-flower plants growing on the ruins, 50 feet high, of the palace in Bishop's Waltham, which was no doubt connected with William of Wykeham. Again, on the walls around the city of Winchester huge masses of Valerian and Wallflowers meet the eye, illustrating what can be done in wall gardening if due thought be given to the subject, and the necessary preparation of soil made to establish the plants, and after attention. E. M.

SOWING CARNATION SEED.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—As this is the right time of the year for sowing Carnation seeds, I think it may interest some of your readers who have never tried raising Carnations in this way to hear of my experience. Last summer I had a splendid display of Carnations from the end of June until September, from seedlings raised from three packets of seed at a total cost of 7s. 6d. The seed was sown in the spring of 1899 in pots placed in a hot bed, then pricked out into boxes and hardened off until they were big enough to plant out in the garden some time in June. Last summer they had grown into strong healthy plants which yielded abundance of flowers with a small percentage only of single blooms. A great charm in growing from seed is the fascinating uncertainty as to what kind of flower each plant will produce. For many years past I have grown Carnations from layers, and I am now convinced that for out of door cultivation, growing from seed is the only really satisfactory way. I have found that after two or three years the layers from the parent plants seem to grow weaker, and far less able to resist the winter and the many Carnation diseases, until one gradually loses the variety altogether. I have noticed at the Carnation shows, the prize exhibits are nearly always new varieties, which a year or two after are conspicuous by their absence. I should like to read in your paper the experiences of other amateur growers.

West Surrey.

W. M.

CAMELLIAS OUT OF DOORS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Because the Camellia is not commonly seen growing out of doors it is supposed by many to be a tender greenhouse subject, hence these periodical notes that have so often appeared chronicling the remarkable discovery that the Camellia is hardy. In THE GARDEN and other papers fine outdoor examples of Camellias have been recorded often, ever since I remember, indeed, in England, Scotland, and Ireland. The Camellia is as hardy, if not harder, than the common Laurel. The following note which I send you from Volume I. of the old "Horticultural Cabinet" of 1833 may interest you: "February 20, 1833. The probability of Camellias succeeding in the open air, as stated by our correspondent, we can confirm by our own experience. In the year 1819 three plants of double Camellias were turned out in the open border in the grounds at Wortley Hall, the sorts were Double Red, Double White, and Double Striped. At the time of turning out the plants were bushy and about 2 feet high. Two of the plants are now from 4 feet to 5 feet high, and one of them spreads about 10 feet across. The striped plant produced last spring upwards of 1,000 flowers. For the first four years after turning out, each winter the plants had wooden cases, 3 feet high, placed round them; upon the top of

each case a hand glass was fixed, which was removed at pleasure for air or protection. At the bottom of the case inside 6 inches deep of rotten leaf mould or tanners' bark was laid over the roots. From the fifth to the eighth year no wooden case was used, but in the severest weather a mat was loosely thrown over each plant. Since that time no protection whatever has been applied, excepting laying 2 inches or 3 inches of bark or leaf soil over the roots. In the same situation where the Camellias are large Portugal and common Laurels were planted at the same time. They have grown well each year, till the severe winters of 1829 and 1830, such being the exposed cold situation in which the Camellias and Laurels are planted that the latter were nearly destroyed, whilst the former withstood the intensity of the frosts and cutting winds without the slightest injury. When properly planted out and gradually inured to the climate we are fully convinced that Camellias will be found much more hardy than Laurels."—COND.

Some of the plants referred to in the above note I found still growing when I went to Wortley previous to 1870. When a wing was added to the hall they had to be done away with, being too old to transplant; but I cut down one and replanted it elsewhere, and it was there when I left Wortley less than two years ago. At Drumlanrig Castle, Dumfriesshire, N.B., about 1860, there were tall, fine Camellias growing behind a north wall out of doors, and I have often seen them elsewhere, at Chiswick Gardens for one place, where there is a border of them growing like Laurels. Nevertheless, I would not plant Camellias out of doors as evergreens, because we have better subjects, and as flowering plants I do not remember ever seeing an outdoor Camellia with flowers upon it the waxy petals of which were not ruined by frost, cold winds, or rain almost as soon as expanded. Wortley is about 700 feet above the sea.

J. SIMPSON.

LILIUM BROWNII.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—This magnificent hardy Lily deserves a word of commendation equally with *L. testaceum*, recently figured and described in THE GARDEN. Experience shows that even a Manchester garden, the sunny side of a Privet hedge, and light sandy soil suffice to bring it to perfection. When well cared for this Lily is of vigorous growth, with handsome leaves, which clothe the stem from top to bottom and continue in vigour beyond the flowering period. In a group with other choice Lilies on a warm sheltered border, or, rising out of low growing shrubs in a partially shaded spot, this Lily forms a striking and uncommon object when in flower. The blooms are carried at a graceful curve on stems from 3 feet to 4 feet high. They are very large, trumpet shaped, with snowy white perfumed throats, in which the rich chocolate anthers make an effective contrast. The outside of the petals is suffused with purplish red markings, varying in intensity according to the amount of sunshine the plant has received. The soil and situation recommended for *L. auratum* will suit *L. Brownii*, but if anything the soil should be lighter. The bulbs are large and heavy, whitish, rather flattened on the top, in shape like a Tangerine Orange, but considerably larger. They should be planted by preference in the autumn at least 7 inches deep. It is always advisable to place over newly planted Lilies something to shed the cold rains of autumn and early spring. Owing to the structure of bulb scales in *L. Brownii*, moisture is liable to be retained, and to set up decay at the base of the bulb. The Japanese practice in consequence, according to Dr. Wallace, is to plant the bulb on the side. This hint may save disappointment, and one other is, that the soil can scarcely be too light and open. The stem will begin to rise early in April and the flowers will open early in July. According to Mr. H. J. Elwes, F.L.S., in his "Monograph of the Genus *Lilium*," this Lily is largely grown by the Dutch and Belgian nurserymen, and in great quantities at Berlin, often in soil little better than sand enriched with manure. Certainly the bulbs are offered by

the Dutch growers at a price within the reach of most amateurs, so that they can yield to the temptation of growing it without serious outlay. It has proved a temptation free from any regrets, and yet according to Mr. Elwes this Lily has never become common in England, although it bears an English name. As Brown's Lily (*L. Brownii*) it is now generally recognised, and is no longer to be confounded with *L. japonicum*, the bulb of which is small and pyriform and the plant less hardy.

Manchester.

S. P.

SALVIA PATENS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I should like to add a word in support of Mr. E. Harriss (page 239) relative to this beautiful blue flower. I think it might advantageously have a place in all gardens, as it is readily grown and provides a brilliant blue, the equal of which is not easy to find. The finest row of it that I have ever seen was at Denbies, Dorking, where it is greatly appreciated by Lord Ashcombe. Every year Mr. J. Beesley, the gardener, grows a considerable number of plants, that are accommodated in a border outside the celebrated Denbies corridor. As I saw them last year the plants were superb.

H. J. W.

NURSERY GARDENS.

MESSRS. SCOTT, MERRIOTT, NEAR CREWKERNE.

SCOTT is a name quite familiar to all fruit growers who can carry their memories back twenty-five years or so, for the late Mr. John Scott was a prominent figure and an authority on all connected with fruit culture. He established himself at the nurseries some years previous to this, having come from Canford Manor, the Dorset seat of Lord Wimborne. He published a work on fruit under the title of "Scott's Orchardist," which was once very widely read. During the latter portion of the sixties and early in the seventies it—like most other books if not kept up to date, however good they may be—was lost sight of; but it was a good work in its time, and afforded much useful information. Mr. Scott was the means of bringing to the notice of the public some local fruits of great merit.

In September of last year I had an opportunity of visiting Messrs. Scott's nursery to see the fruit trees whose produce had excited so much admiration at the various shows, and I can assure my readers the nursery has lost nothing in quality or quantity through having been heard but little of during the last twenty years as compared to the twenty previous years. In a border and standing alone on the grass were large masses of *Aralia Sieboldi*, those on the turf I found to be 12 feet through and 8 feet high. Although in severe winters they are slightly disfigured, they soon recover and prove noble decorative objects. On either side of the central walk leading through the nursery are planted many good flowering shrubs and ornamental trees, including *Magnolia purpurea*, a specimen about 36 feet through and 25 feet high; I was told by Mr. Stacey, the manager, that last spring it bore quite 5,000 blooms. *Magnolia thompsoniana* is also found in fine condition; it has leaves from 1 foot to 1½ feet long and 8 inches broad, the flowers are creamy white and very large. A splendid *Wellingtonia* close by must be quite 75 feet high. *Cotoneaster microphylla* worked on *Cotoneaster affinis* is 10 feet high and from 10 feet to 12 feet through, and covered with berries, making a fine lawn shrub. A curiosity is to be seen in the Snowy *Mespilus* worked on the Mountain Ash. It had a 3 feet head and was grafted upon a 4 feet stem, and I was told it was considerably over 100 years of age. *Viburnum macrocephalum*, so well figured in THE GARDEN, page 365, is noticeable in quantity. This is one of the best of the Snowballs, and deserves to be widely planted. These are only a few of the many good

shrubs to be found; most of the kinds usually to be had from a nursery are grown in various sizes. I noticed a fine lot of the broad golden-leaved Privet; this is a good shrub for relieving the foreground of shrub beds or placing in window boxes, as I have seen quantities done in a market nursery at Windlesham, Surrey, for the London trade.

Interesting as this portion is, I must pass on to the fruit trees. To give readers of THE GARDEN an idea of the size of some of the Plum trees, I may mention Isabella as a standard 18 feet high; Washington, 25 feet high; this fine Plum does well here. None is more delicious than this variety when well grown, and the crop was most abundant. The former of the two I was told seldom failed to crop, even in a bad season. Lawrence's Golden Gage, Kirk's Purple Gage, Pond's Seedling, Victoria, a kind known here as Harvest, Mitchelson's (which crops abundantly), and many more fine specimens of fruit tree culture are to be seen. All the free-bearing market kinds are grown, and a good stock of young trees in the quarters. All the leading varieties of these are cultivated, and may be obtained in all sizes. The Pears included Dunmore (I found a full specimen 30 feet to 35 feet high), Duchesse d'Angoulême, Catillac, Burrel Clairgeau, and Louise Bonne of Jersey. A kind I had not seen before was one known as Belle Lucrative; the specimen of this was from 30 feet to 40 feet high and 18 feet through, standing in a most exposed position, bearing an enormous crop.

Apples must have a passing note, for there were many large trees literally breaking down with fine fruit. Space will not permit me to enumerate many, but Mank's Codlin, yellow Ingestre, Worcester Pearmain, Golden Spire, Bismarck, and many of the large showy kinds, such as Peasgood's Nonsuch and others of this type, were particularly fine. An old kind I have known many years in this district is Powell's Russet; this is a good and long keeping Apple. Borovitsky is regarded here as different from Duchess of Oldenburgh, being larger and a better grower. Cherries, bush fruits of all kinds, Strawberries, in fact, all nursery plants generally, are grown in quantities. Roses and herbaceous plants also occupy a considerable space. I observed a fine and up-to-date collection of Cactus and other Dahlias. Seldom have I seen a nursery so clean and in such good order. J. CROOK.

PROPOSED NEW GARDEN OF THE R. H. S.

NOTICE is hereby given that a general meeting of the Fellows of the Society will be held at the Drill Hall of the London Scottish Volunteers, Buckingham Gate, Westminster, on Tuesday, April 23, to consider, and if approved, to adopt the proposal of the Council to purchase on behalf of the Society, for the purpose of its New Gardens, 48 acres of land in the County of Kent forming part of Rabbits Farm, and adjoining the Little Boys' Home at South Darenth. Fellows wishing to see the property before the meeting should take the 10 a.m. train from Victoria (L. C. and D. Railway) to Farningham Road Station on Thursday next, when some members of the Council will be on the spot to explain the boundaries, &c.

DAFFODIL COMPETITION.

THE Daffodil Cup offered at the Society's meeting last Tuesday, not having been awarded owing to there being one competitor only, will be offered in competition again on April 23, as follows:

Group of Daffodil Blossoms (Polyanthus varieties excluded) grown without artificial heat; must include some of each section, Magni-, Medii-, and Parvi-Coronati; must contain at least 50 varieties distinct, of 30 of which at least three blooms each must be shown. Not more than nine blooms of any one variety may be put up. To be staged in bottles, vases or tubes, not exceeding 3 inches in diameter at the top (inside measurement), and all the stems must touch the water. Quality of flower will count more than quantity, and correct naming

and tasteful arrangement will be duly considered. Any foliage may be used, Daffodil or otherwise. No prize will be awarded unless there are two competitors at least. Open to amateurs and gentlemen's gardeners only. First prize, a £7 7s. silver cup, presented to the society by Messrs. Barr and Sons; second prize, silver Flora medal. Owing to the backward season, the Narcissus Committee will also meet on May 7.

MISCELLANEOUS.

LIQUID MANURES AND THEIR APPLICATION.

THESE manurial stimulants may be made artificially, but my remarks here will refer to those formed of natural elements, viz., the drainage from stables, cow-sheds, &c. Throughout the kingdom these are either wholly wasted or, when utilised, often not made the most of. The cause of this general waste, through the lack of systematic application, may in some instances be correctly attributed to the difficulty found in economically applying these manures to crops, and particularly is this the case in reference to agriculture as ordinarily pursued. This, however, owing to altered conditions, does not apply with equal force to horticulture. Many private gardens, at any rate, are placed near enough to stables for the latter's drainage to be, by means of a sewer, conveyed to a tank placed in the former (as is done here, the tank being supplied with a chain pump), and in such instances, from an economical point of view, apart from finding a means of getting free of what otherwise would become a nuisance, this might be done. These manures necessarily vary considerably in quality in comparison with the quantity of water used in swelling the sewers, and must, therefore, for this reason, as also in order to meet the requirements of the crops to which they are applied, be reasonably diluted. They should be employed for their manurial properties rather than for merely supplying moisture, and are more safely and efficiently used for this purpose upon soils when in a moist condition than when dry, while they act quickly, and, being highly nutritious, must in all cases be made use of with discretion. As a fertiliser for most kinds of vegetables when applied either immediately to the crops or to fallow land previous to being planted, they are of great service, but must be carefully used, especially in the case of crops belonging to the Brassica family that are to stand the winter. They are as useful for vegetables as for fruits, and the crops of matured trees and bushes of Apples, Plums, Currants, &c., that require manurial assistance, derive great benefit by being afforded, especially during their dormant and early-growing seasons, periodical soakings, but in ordinary cases liberal applications in late summer and early autumn should not be given, particularly upon retentive soils, for they encourage growth at a season when it cannot be well matured. These are ideal manures for the Strawberry and Raspberry, and they have, when properly used during winter and the growing season, an invigorating effect upon them and greatly improve both the size and quality of the fruit. Then, again, they are well suited for many subjects cultivated under glass. Amongst fruits of this description the Grape, Peach, and Fig, together with the Pine-apple, Banana, Melon, Cucumbers, &c., all alike benefit by their assistance, as do also many decorative and other plants, such, for

example, as the Allamanda, Calla, Chrysanthemum, Cineraria, and Hyacinth. THOS. COOMBER.

The Hendre Gardens, Monmouth.

Illustration of malformed Cypripedium flowers.—Mr. G. S. Saunders showed at a recent meeting of the scientific committee of the Royal Horticultural Society a series of beautifully executed water colour drawings of malformations in the flowers of this genus as follows:—The entire absence of one or both side petals; the entire absence of the labellum, its presence in a distorted form, and its partial or entire duplication; one or both side petals partially, or entirely, taking the form of the labellum; the side petals joined to the upper or lower sepals; the upper and lower sepals joined together; one side petal adhering to the labellum; the lower sepal adhering to the labellum; a duplication of parts; a double flower, caused by the adherence of two flowers; a flower showing the two lower sepals separate which are generally joined together in this genus.

Two good Peaches.—I should like to draw attention to the two Peaches of which I send photographs. Peach Stirling Castle is, in my opinion, the best flavoured and one of the most satisfactory second early varieties for forcing. Waterloo is also an excellent first early Peach, and invariably bears well with me.—A. W. P., Sussex.

Primula megasæfolia (Boiss and Bal).—Enquiries come to me from England on the subject of a new Primula sent out from our garden last year under the name of Primula megasæfolia, of which the three plants shown by Miss Willmott lately received the Royal Horticultural Society's award of merit. The plant is oriental, not Chinese as might be supposed from its relationship with P. obconica, from which however it is remarkably distinct. It is a native of damp, shady gorges, and defiles in the neighbourhood of Rhizé in Lazistan, to the south-east of the Black Sea in the mountain region at a height of between 900 feet and 1,000 feet. This Primula, discovered by Balansa about forty years ago, belongs to a section that contains but few species, that of the Fallaces, comprising P. yervana, Kisoana, Reinii, and megasæfolia; four species not one of which was known to the horticultural world till the day when, thanks to Mr. Carl Sprenger, P. megasæfolia was received at the Alpine Garden of Geneva, after one earlier stage of its journey to Naples. The area of its habitat is restricted, and its locality has remained long undetermined; indeed, had not specimens existed in one or two herbaria no one would have known anything about it. It was therefore a good day for us when we received some strong seedlings of his own raising from Mr. Sprenger, for it was a plant we had been enquiring for for many years. The qualificative "megasæfolia" suits it admirably, and its thick leaves, oval or oval oblong, rounded or cordate at the base, of dark green colour and



PEACH WATERLOO.



PEACH STIRLING CASTLE.

smooth surface, red-brown above, and strongly ribbed, are in themselves distinctly ornamental. In our garden at Geneva, the flowers appear in March and April; they are of a rose-violet colour more or less deep, of the shape and size of those of *P. obconica*; like them they are disposed in umbels and are borne plentifully and for a lengthened season. We grow it in peat, and winter it in a cold greenhouse.—H. CORREVEY, Geneva.

Anemone blanda scythnica.—I have at present (April 1) several plants of *Anemone blanda scythnica* in full bloom, and very beautiful they look at the base of a rockery in full sun. Their flowers are like Marguerites of fair size, and one is pleased alike with their dimensions and with the substance of the blooms. It has had some attention paid to it in THE GARDEN before now, and it is well worth looking after by those who are admirers of the Windflowers, and have not yet grown this form of the Greek *Anemone*. As a rock garden plant or for a choice border, where it would run no risk of destruction from carelessness when it was at rest and thus invisible, such a little *Anemone* is of much value, with its large beautiful flowers, blue outside and pure white when fully open to the sun. Its price seems the only obstacle to its popularity, but as it is better known it will probably be more largely imported, so that it will become cheaper. By the way, I cannot recollect seeing any discussion about the soil in which *A. blanda* should be grown. Here, following the advice of an experienced friend, I have been trying to grow this *Anemone* in stiff soil, instead of the light sandy peat of the greater portion of my garden. The result is very satisfactory, and I hope gradually to transfer my plants to a rather clayey compost.—S. ARNOTT, Carsethorn, by Dumfries, N.B.

Carnation Valetta.—This is one of the most novel and distinct of the perpetual or winter flowering Carnations. It is a good grower, of vigorous habit, the flowers large, full, the base of the petals warm rosy-pink, each petal having a distinct deep border of white, and they are somewhat serrated. Those who regard the smooth petal as representing the highest outcome in the direction of form will yet find in this variety much to interest and attract. I recently saw it in the collection of winter Carnations at Slough, where it was a conspicuous object among many very fine modern additions.—H. D.

Standard Flowering Plants.—Fashions in matters horticultural seem to be as

exacting as in matters of dress and etiquette. When at the Royal Nursery, Slough, a few days ago I saw a number of Fuchsias being grown on to assume the standard form, for Mr. Harry Turner said they were in demand. A number of one-year-old plants had formed stout stems, and they had reached a sufficient height to admit of being finally stopped, so as to encourage the production of heads. There were also to be seen a number of young vigorous plants of certain varieties, some 18 inches or so in height, which were being grown on for the same purpose. Heliotropes as standards are being enquired for, and in addition the fragrant foliaged *Aloysia citriodora*. The last-named especially makes an excellent standard, as can be seen on the terrace at Gunnersbury House during the summer months. A short time ago Messrs. R. and G. Cuthbert, Southgate, exhibited some young standard plants of *Wistaria sinensis*, which were carrying excellent heads of bloom. *Acalypha hispida* (sanderiana) also makes an excellent standard.—R. D.

National Sweet Pea Society.—A general committee of this newly-formed society was held at the Hotel Windsor on Tuesday afternoon. At a meeting some ten days or so previously the executive committee drafted rules for the government of the society and a schedule of prizes, and these, with a few additions and minor alterations, were passed by the general committee. It was decided to hold the exhibition this year at the Royal Aquarium, and the dates selected were July 25 and 26. In order to relieve Mr. Richard Dean of some of the work, Mr. Horace J. Wright was elected general secretary, the services of Mr. Dean being retained as exhibition secretary. Mr. George Gordon, V.M.H., presided over a moderately large attendance. Financial support was promised by several of those present. The schedule of prizes will be put into the printer's hands forthwith, and will be distributed as soon as it is ready.

Grass under trees.—To keep grass green under trees where it does not grow readily, Mr. William Salway, superintendent of Spring Grove Cemetery, Cincinnati, Ohio, suggests digging up the surface of the ground and sowing English rye grass seed mixed with a little red top. Water until about 3 inches high.—Park and Cemetery (America.)

Conifers as rain gauges.—Mention has already been made of the influence of certain more or less severe droughts in the French Mediterranean upon *Pinus Laricio* of Corsica and *Cephalonian Fir*. The lengthening of the branches of these two species is always proportionate to

the quantity of rain falling during those months of the year when it is most profitable to them. Co-efficients have been established indicating what the degree is for each month of the year. These co-efficients enable the relationship that exists between the amount of rain fallen and the greater or less intensity of the vegetation which it has encouraged to be determined. It is shown that, under these conditions, it is possible to judge approximately the quantity of rain which has fallen by measuring exactly the length of the leader, or of the branch produced yearly on these species of Pine, and if the estimate is not absolutely proportionate to the quantity of rain registered by the rain gauge, it closely approaches to it; and a still closer estimation may be made by taking into account the relative value of the results produced by rain in the several months of the year. It is, therefore, possible, to a certain extent, to use plants specially selected for this purpose as actual registering rain gauges.—FELIX SAHUT, in *Revue Horticole*.

The Midland Carnation and Picotee Society.

—We have received the tenth annual report of this excellent society, containing full list of amounts, subscribers, and

balance sheet for 1900, also the schedule of prizes for 1901, together with a list of some of the leading flowers in each class suitable for exhibition. A short article on Carnations is given by Mr. Robert Sydenham, and other useful information. We are pleased to know that the society is in such a sound condition, due in no small degree to the exertions of Mr. Robert Sydenham, of Tenby Street, Birmingham, the joint honorary secretary. We are very sorry to hear, however, that through extreme pressure of many duties Mr. Sydenham has been compelled to give up joint secretaryship with Mr. Herbert Snell, 22, Tenby Street North, Birmingham, but acts as chairman of the committees. The new co-secretary is a well-known amateur, Mr. R. Cartwright, Middleton Dene, King's Norton, Worcestershire.

Apple Baddow Pippin.—The above-named Apple, sometimes called the Spring Ribston and also d'Arcy Spice, but by whatever name it may be called it should be in every collection of Apples where it will succeed. It has been known about fifty years, so it is not a new Apple. It has a flavour peculiar to itself, and at this late season it is of first-rate quality. The tree is a compact grower and bears freely when well established.—W. O., Fota.

Mr. James Wilkins, who for thirty-five years was Vine grower in Messrs. James Veitch and Son's nurseries at Chelsea, was, on the same occasion as Mr. Schneider, presented by his late colleagues with a suitable souvenir.

Viburnum Tinus lucidum at Fota, Cork.

—The above-named shrub has been in flower for the past two months and is still a sheet of white. It grows here from 10 feet to 12 feet high, and always flowers most profusely, to be followed with its ornamental berries, so with its flowers and fruit it is very attractive for at least six months in the year. Where these shrubs succeed the above variety should be largely planted, as it is more ornamental than the type (*Viburnum tinus*), the leaves being much larger and of a darker green; it strikes very readily from cuttings put in in autumn, and is not particular as to soil, but is worthy of good treatment.—W. OSBORNE, Fota, Cork.

Carnation Winter Cheer.—The raiser of this popular and well-established variety, whoever he was, deserves well of the gardening community. Nothing in the way of blossom can be more cheerful in appearance than the bright scarlet flowers this Carnation produces so freely. During the dull and gloomy months of the winter bright Carnations seem appropriate and compatible

with murky surroundings. We want warmth of tone in some at least of our flowers when the days are short and the weather is sunless.—R. D.

Puschkinias.—The many admirers of early bulbous plants will not regret having their attention called to these pretty little flowers, which, though neither rare nor expensive, are yet too little seen. They have a distinct character of their own, and, although not showy, are very pleasing with their racemes of pale porcelain flowers lined with blue. Some confusion exists with the names, but I believe that authorities are convinced that there is only one species in our gardens, and that its name is *Puschkinia scilloides*, *libanotica* being only a synonym. There is, however, a distinct variety named *compacta*. I saw a good number of plants of this in the Royal Botanic Gardens of Edinburgh last year, together with some of the type. I recollect reading somewhere that *P. scilloides* differed from *P. libanotica* from its being of more slender habit, and from having its blooms lined with a lighter blue. I have plants showing this character, but I dare not question the views of those who make the two synonymous, for there is no other difference, and both light and dark-lined forms can be procured under either name. The only drawback to the cultivation of the *Puschkinias* in a light warm soil is the slugs, which are very destructive.—S. ARNOTT.

Restrepia antennifera.—This little favourite is now in bloom. It does very fairly here, blooming twice a year, while its relative, *R. striata*, is still more floriferous, though not so pretty.—GREENWOOD PIM, *Monkstown*.

Malmaison Carnation Princess May.—Notwithstanding the growth of this section in late years, very few indeed among them can be pronounced to be winter-flowering varieties, as the time of blooming is more particularly late spring and early summer. There is one pronounced exception, namely, in Mr. Martin Smith's *Princess May*; this blooms during winter, and produces arge and handsome deep rose flowers of good form. It would be interesting to know with exactitude the origin of the *Malmaison* Carnation. As no mention is made of it by the older school of writers on the Carnation, it may be taken as the product of the nineteenth century. In an elaborate catalogue of plants published in 1817, I find mention of varieties of *Dianthus Caryophyllus*, and also of *D. hortensis* (?), but no mention of *Malmaison*. It has been said that the section originated in the garden of the Empress Josephine, at *Malmaison*, but no particulars appear to be forthcoming. That the *Malmaison* Carnations are representative of a distinct race there can be no doubt.—R. DEAN.

SOCIETIES.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

THE usual monthly meeting was held on Tuesday, April 2, at Winchester House, Old Broad Street, E.C., at seven o'clock in the evening, the president, Mr. T. W. Sanders, occupying the chair.

On this occasion ten new members were elected, which is conclusive proof that the association is progressing satisfactorily. A hearty reception was given to Mr. H. Shoesmith, of Woking, by the large audience, the subject of the lecture being "Tomato Culture." Mr. Shoesmith, in his opening remarks, spoke of the risk of starting early, owing to the cold weather. 60° was mentioned as a desirable temperature to maintain. For raising seedlings he advocated using sifted soil, with plenty of drainage. His seedlings were raised immediately over the hot-water pipes, but they were removed to cooler quarters soon after they were through the soil. The seedlings were subsequently potted on and before they were pot-bound. Tomatoes were not fastidious as to soil. A common error in Tomato culture was the too free use of manure and too rich a soil. Poor soil was distinctly better, the lecturer giving in detail some of the curious ingredients into which his plants had been potted. What must be encouraged was firm, mature, short-jointed growth. For the amateur, as represented by members of the association, the lecturer recommended growing Tomatoes in pots, boxes, or tubs all through the season; 10-inch pots were those recommended. Soil should be fresh, and should not have been used for Tomatoes before. Pot very firmly, avoid overcrowding, and confine the plants to single stems. When they are in small pots keep them rather dry. Do not water in dull weather, and carry out the watering in the early morning. Use stimulants when the first bunch of fruits is freely swelling.

In summer mulch the surface with rotten manure. Regarding the question of spot on the Tomato, Mr. Shoe-

smith said abundance of air circulating through the glass structure would prevent this. He also advocated keeping the pipes warm at night. Setting the fruit was easily effected by tapping the plants each day by the aid of a small stick to scatter the pollen. Outdoor Tomato culture was also considered, the lecturer emphasising the importance of preparing a batch of strong and sturdy plants, standing them out in the open early in June, and planting where there is shelter. Outdoor plants should be treated with as much consideration as those grown indoors. Mr. Shoesmith would not commit himself to recommend any one or more varieties in particular, but confined his selection to those of Perfection and Ham Green types. The chairman supplemented the lecture with some interesting facts regarding the evolution of the Tomato, showing how rapidly the fruit had come into favour. He also spoke highly of making Tomato jam and Tomato sauce, &c. A hearty vote of thanks to the lecturer concluded a most instructive and interesting meeting.

The monthly exhibition, held in the large hall, embraced excellent representations of Daffodils and numerous other spring flowers, prizes and certificates being awarded. Mr. F. Finch, 117, Embleton Road, Lewisham, S.E., is the honorary secretary.

BECKENHAM HORTICULTURAL SOCIETY.

ON March 29 at the Church House, before a goodly attendance of members, Mr. Galley read a paper on "Cinerarias." After discussion a vote of thanks to the lecturer closed a very pleasant and profitable evening.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

THE Waverley Market, Edinburgh, was not so full of spring flowering plants as usual on April 4 and 5. The marks of the abnormally late spring, with its weather, for which no one can find a good word to say, was, moreover, somewhat unpleasantly evident on the appearance of some of the exhibits. While, however, not up to the average, the officials have cause to be thankful that so good a show as it was resulted, as many expected it would have been a very poor one, which happily it was not. OF

FRUIT.

which was sparingly exhibited, Mr. McIntyre (Sir Charles Tennant), The Glen, showed and obtained first prizes for respectively six pots Strawberry Royal Sovereign, and for a dish of extra fine fruits of the same variety; Mr. Smith (Lord Stair), Oxford Castle, being second for a dish of Strawberries, and for two bunches of Muscat of Alexandria, the same exhibitor was first. For two bunches of black Grapes, Mr. Kidd (Lord Elphinstone), Carberry Towers, secured first with two perfectly preserved clusters of Lady Downes, Mr. Smith being second for the same Grape. There were no Pears, and not many Apples, but these were in good condition. Mr. McKinlay (Earl Cowper), West Park, with fresh well coloured fruits, obtained the first prizes in the classes for kitchen and for dessert varieties, Mr. Cairn (Earl of Home), The Hirsell, Coldstream, being second in the first-mentioned class, and Mr. Smith (Earl of Seaforth), Callen House, for the latter. The chief class for

PLANTS

was a round table arranged for effect. Mr. McIntyre and Mr. George Wood (J. Buchanan, Esq.), Canaan Lane, Edinburgh, were the sole exhibitors, and the prizes were awarded in the position of their names, some fine Cyclamens being conspicuous in the premier group, and *Odontoglossums* and *Dendrobiums* in the other. Mr. Mitchell, Bantaskine, Falkirk, was the only exhibitor in the class for a table of Orchids, and received first prize for a nice lot, mostly of *Dendrobiums*. Exotic Ferns, too, had only one representative lot, from Mr. Wood, who staged large and good specimens for the first prize. The same exhibitor was first also for six flowering stove and greenhouse plants, and staged very good examples of *Coleogyne cristata*, *Cymbidium lowianum*, *Ada aurantiaca*, *Cypripedium villosum*, *Dendrobium glaucum*, and *Anthurium scherzerianum*. Mr. McIntyre was a good second, extra fine *Azaleas* and *Anthuriums* being conspicuous. Mr. McIntyre scored in the class for four stove and greenhouse plants, and also for two *Rhododendrons*, staging large well-flowered specimens of *R. veitchianum* and *Countess of Haddington*. He was first, too, for three Indian *Azaleas* with large closely bloomed specimens, Mr. James Bald, Canaan House, being second. The premier ticket also fell to Mr. McIntyre for ten forced plants in bloom and for six of the same.

ORCHID

classes were filled with grand plants; Mr. McIntyre with *Cymbidium eburneum*, *C. lowianum*, *Cypripedium villosum*, and a *Cattleya* being first in the class for four, and Mr. Mitchell, Bantaskine, a good second, while for one Orchid Mr. R. Lawrie Cramond, was first, showing a huge mass of *Coleogyne cristata*, and Mr. Mitchell second. Mr. Sharp, Forgardenny, securing the third prize in both classes. In several other classes, e.g., for *Crotons*, *Draenas* (six), and three foliage plants, nine pots of *Cyclamens*, very fine, the first prizes fell to Mr. McIntyre. Mr. W. McDonald, Innerleithen, had the three best pots of *Amaryllis*, and Mr. George Wright, Musselburgh, first for six and for three *Cinerarias*, which were extra fine. Mr. Cook (Earl of Wemyss), Gosford, secured first for six *Primulas*, the plants large and well bloomed.

There was rather a nice display of *Auriculas*, which, considering they must have been subjected to forcing, were worthy of much praise. Mr. A. Paterson, Jasswade, secured first prizes for six pots of *Alpines*, these being specially good. There was also a variety of *Primulas*, *Polyanthus*, and *Alpine* plants, but none calling for note.

BULBOUS PLANTS

were, as a rule, deficient in quality, particularly with regard to *Hyacinths*. The twelve varieties staged by Mr. Brydon, Innerleithen (first), and by Mr. Lawrie, Inverlmond, Cramond (second), however, merited praise for massiveness of spikes. For six varieties, Mr. John Meiklen, Thorn House, Johnstone, secured first place, and Mr. Reid, Ashiesteel,

second. Very good were the *Tulips* (six pots) with which Mr. Farquhar (the Lord Advocate), Stenton, Dunkeld, obtained first prize, and also the second prize lot of Mr. Brydon. There was a very large display of *Polyanthus* *Narcissus* and of garden *Narcissus*, Mr. A. McInnes, Esk Hill, Inveresk, being first for the former, and Mr. Bald for the last-named.

In the plant classes reserved to nurserymen there was even less competition than in those above-mentioned, Mr. John Downie, 144, Princes Street, securing most of the prizes, as, for example, for twelve *Rhododendrons*, various *Azaleas*, eighteen forced plants, and twelve of the same, twelve Japanese Maples, Palms, decorative plants, and also for *alpine Auriculus*. Messrs. Dickson and Sons, Hanover Street, were first for twelve *Conifers*, and Messrs. Cunningham, Fraser and Co., Comely Bank, for twenty-four shrubs. Mr. A. E. Campbell, Gourcock, with meritorious examples, was first for twenty-four *Hyacinths* and for six pots *Tulips*. The

CUT FLOWER

section, though not extensive, comprised some of the best material in the show. *Narcissus*, for instance, has on no previous occasion been so well shown, the first prize collection of twenty-five sorts from Mr. Cumming (Lady Stewart), Grantully Castle, being not only well grown but most effectively arranged and grouped. Mr. A. W. Cooke, The Lodge, Ratho, was second in this class. For twelve bunches Mr. Bald, Canaan House, staged twelve kinds of the trumpet section, each of which was really fine, Golden Spur, Sir H. Irvine, *Maximus* were specially so. Mr. Cumming was second. *Roses* were equally deserving of praise. Mr. G. Manson (H. Gillon, Esq.), Wall House, Bathgate, staging fine blooms and securing first prizes in the classes for twenty-four and for twelve blooms, as also for twelve *Maréchal Neils*, large and fresh; twelve trusses of stove or greenhouse plants were also of great merit. Here Mr. McIntyre was first, staging *Orchids* solely, Mr. Mitchell second, and Mr. Sharp (C. L. Wood, Esq.), Forgardenny, third.

VEGETABLES.

unlike the cut flowers, formed a disappointing feature. Only two collections were staged, Mr. Stuart (Earl of Lauderdale), Thirlstane Castle, first, and Mr. Kidd, Carberry, second. The last-named was first for a brace of Cucumbers, Mr. McKinlay, West Park, for six Tomatoes, Mr. McRobbie, Spring Gardens, Edinburgh, for a dish of Mushrooms, and Mr. Cossar (Miss Watt), Spott House, Dunbar, for French Beans. Early forced Potatoes were staged by various exhibitors, Mr. Wilson, St. Boswells, being first for these.

THE MISCELLANEOUS EXHIBITS

furnished by the trade formed a most important feature of the show, which but for them would have provided but a meagre display.

Perhaps the most important exhibit ever made by an Edinburgh firm was that furnished by Messrs. R. B. Laird and Sons, Limited, and which occupied the whole semi-circular space at the west end of the market. It formed a series of groups of flowering and foliage plants, most artistically arranged and disposed on the floor of the building. The southernmost group was a harmonious blending of various shades of blue (*Hyacinths*), *Lilacs*, and *Wistaria sinensis*, and yellows, furnished by dwarf hardy *Azaleas* in many shades, *Cytisus* in variety, and a number of species of *Acacia*. Many of these were large specimens, and disposed as they were, not too thickly, produced a very good effect. Another semi-detached group, with a huge *Palm* as the chief plant, was composed largely of dwarf *Guelder* *Roses*, with many *Hippeastrums*. Very effective, too, was a little circular arrangement composed mostly of *Prunus sinensis* fl.-pl., intermixed with the new Hybrid *Tea Rose Liberty*. *P. triloba* fl.-pl. in standards, *Magnolias*, such as *M. Lennei*, *M. amabilis*, and *M. speciosa* with *Tulips*, *Rhododendrons*, Japanese *Acers*, &c., were also employed. A gold medal was worthily awarded the firm for this magnificent display, which, under the electric light and looking from the gallery, appealed to the observer as a glimpse from fairyland. A long table filled with cut examples of Daffodils in rich variety, e.g., *Mme. Kemp*, *Victoria*, *Lulworth Beauty*, *Glory of Leyden*, *Sentinel*, *Lady Grosvenor*, &c., formed a division between the above and the rest of the exhibition. Messrs. Glass, of Newington, who were awarded a silver-gilt medal, staged this extensive exhibit. A silver-gilt medal was awarded also to Mr. John Downie, Beechwood, for an oval group, composed mostly of forced flowering shrubs, and another to Messrs. Cunningham, Fraser and Co., Comely Bank, for a collection of alpine and hardy flowers. The alpine included many *Saxifrages*, such as *Boydii*, *busseriana*, *apiculata*, &c., the peculiar-looking *Senthyrus reniforme*, many *Primula* species, *Fritillaria kamschaticaensis*, *Daphne blagayana*, &c.

Awards of merit were given to Mr. John Forbes, Hawick, for a small group of *Begonia Gloire de Lorraine*, and B. Caledonia, with *Mountain Pionies*, and to Messrs. J. Methven and Sons, Leith Walk, for an oval group of spring forced flowers and shrubs.

We hope next week to give an illustration of Messrs. Laird's group.

BIRMINGHAM AND DISTRICT GARDENERS' SOCIETY.

At the meeting of this society, held in Birmingham on April 1, a lecture on "The Gardens of the Riviera," illustrated by lantern slides, was given by Mr. H. H. Thomas (of THE GARDEN). There was a good attendance of members, Professor Hillhouse being in the chair, supported by Mr. W. B. Latham.

The lecturer, having described the indigenous vegetation of the Riviera, proceeded to give particulars of the many beautiful sub-tropical and tropical plants that flourish in the gardens there. The garden work of the different seasons, and the peculiarities and difficulties of culture, were also mentioned. The numerous slides shown served well to illustrate the varied and beautiful vegetation of the Riviera gardens, and added greatly to the interest of the lecture. After some remarks by Mr. W. B. Latham, Mr. W. Gardiner, and others, a vote of thanks was accorded to Mr. Thomas.

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[APRIL 20, 1901.]

PROPOSED NEW GARDEN OF THE ROYAL HORTI- CULTURAL SOCIETY.

A MEETING of the Royal Horticultural Society is announced for Tuesday next, for the further consideration of the subject of a new garden to replace the old one at Chiswick.

The society has now placed itself on a perfectly sound and firm foundation, not only financially, but also most justly in public estimation and confidence. Its ability to extend the scope and usefulness of its work has of late years so much increased that every year it is more and more felt how inadequate and how badly placed are its old grounds at Chiswick. In former years they stood in free country air, but are now almost surrounded by the ever-growing buildings of a favourite suburb.

What might now be done over a large range of horticultural practice, experiment, and instruction requires more space in perfectly pure country air and on ground presenting some diversity of soil and aspect. The labours of this great society have now brought it to a state when its educational powers are so fully matured that it has been a matter of sincere regret that much of this precious strength is wasted by the restricted area and other hampering conditions of the old garden.

Some members are of opinion that the expansion for which the society is now ripe should take the form of a large show hall. Others, whose counsel we think the wiser, are for new grounds, and for developing its less specious but more really important educational aspects.

It would, of course, be well to have everything—a perfect London home for the society, with its library, offices, and large show hall. But the cost of this would be enormous, and not the initial cost only, for that of maintenance, and the payment of rates and taxes, &c., would be a heavy burden, and one from which there could be no prospect of release. The society has already been once wrecked on this rock, and those who remember the costly disaster of South Kensington will be fearful of repeating the dangerous experiment.

On the other hand, though the Drill Hall is by no means an ideal show room, it is not a bad makeshift, and in any case entails none of those terrors of prospective swamping expenses that would attend the upkeep of a hall of the society's own.

A new garden, with educational opportunities for a much larger number of students, would be a starting point of splendid new vitality and strength. The cost of the land and the erection of necessary buildings, such as would suffice for a beginning, would not equal a quarter of what would have to be spent on a hall in London. Its cost of maintenance would be small out of all proportion, while in a few years it would probably be self-supporting, and be making further strides in the march of usefulness in its trials of fruit and flowers, and in sound instruction in all branches of horticulture.

We shall be pleased to hear the opinions of our readers upon this matter. We are sure that the majority of the Fellows are too devoted to practical gardening to wish for a big show hall, or similar scheme, in which wrong outside organisations may be placed under the same roof. This means that the Royal Horticultural Society loses its splendid individuality at once, and ceases to be a power in the land, as it is at present. We want a good garden, wherein to practice horticulture and develop the school of gardening—for such we may call it—that has become an established fact at Chiswick.

FLOWERS OR "NO FLOWERS."

"Bring
The white Pink, and the Pansy freaked with jet,
The glowing Violet,
And every flower that sad embroidery wears."

IF to any who chance to see these words the subject seems too sad, this page is easily turned over and forgotten; but why should such thoughts be always brushed aside? To all of us except the very young there must have come a time when flowers were the brightest comfort in a day of sorrow, and "Flowers or no flowers" is a question that often has to be decided.

Sometimes in the impatience and impetuosity of youth, or the petulance of a later age, one hears it said: "When my time comes, 'no flowers,' remember that!" and the thoughtless, unconsidered saying has to be acted on in conscientious grief. By others, may be, the printed words are read with pain—the pain, almost, of wounded love. That this should be the mandate when one is longing to express in some mute fashion the sympathy that overflows seems hard. The words go forth we know, but as a protest against unreality or insincerity; but why should all be punished because a few are faulty? Imagine if at the passing of our Queen the fiat had gone forth, "No flowers!" how much of comfort would have been denied her sorrowing people. The Queen herself, in the last few days of her life, set us the example we love to follow, weaving with her own kind

fingers some flowers and leaves into a crown to lay upon her dead friend's heart. In Dublin, when the news of the nation's loss was posted up in the city, a little shoeless street boy was seen to spend what was perhaps his only penny on a bunch of Violets to lay against his dead Queen's name. The flowers expressed the love he bore—the Queen herself could find no better way.

This lovely use of flowers is one we Christians like to think peculiarly our own, as typical of Christian faith and hope. In this we claim too much. We do but follow an instinct of human nature, far broader and wider in its scope. Of old the Greeks and Romans, from whom we inherit so many customs, crowned their dead with flowers, and heaped their tombs with leaves and wreaths and chaplets.

This is no more than we might expect from such worshippers of the beautiful. More surprising, and not a little touching, is it to find a very simple and quite untutored folk expressing their feelings in so similar a fashion. The Malays of Singapore are as poorly equipped a people as any who share a home with Europeans, and even they make the last resting-places of their loved ones as fair as may be with flowering trees—always the same tree, the Frangipani. One never knows why this tree is chosen, whether for its scented blossoms, or because of the soothing, pain-killing sap it yields, but this is the tree kept sacred by them to their dead.

According to some, the number of wreaths and crosses that were sent in memory of our Queen was about 2,000; but it is almost certain there must have been far more than that. If historians are to be believed the poet Catullus had as many when he was so deeply mourned by his compatriots. Still, those that were sent in honour of the Queen were many of them of extraordinary magnificence, each one representing, perhaps, a city or a nationality, and containing thousands of blossoms, all of them gathered, as some would phrase it, "with intention," and therefore of double value.

Primrose Day is a bright example of the best use of flowers. Any special political significance may be, indeed, should be, ignored. It is enough that the association of the name we honour so much, with the simple Primrose flower beloved by all, makes bright a day that otherwise would be oppressed by sad regrets.

Those who have noticed some of the cemeteries abroad must have felt surprised that our neighbours in France, who in most things show such exquisite taste, should fall so far below our simple English fashion in the way they decorate their graves.

As a rule, it must be owned, great tawdriness is seen; the very prettiest and most graceful sentiments accompany the stiffest and most unpleasing devices; too often the wreaths and crosses and ornaments are made of lifeless beads, plaster of Paris flowers, artificial leaves, and other incongruous materials. Some few

of these have tried to find a place in our sweet English "God's acres," but happily not many; a few there are who may value them for their durability, but by most people they are rightfully abhorred.

Immortelles may be allowed, they have some beauty still, and were real flowers once, though harassed now and well nigh spoiled by wire and dryness, but for the last love-gifts we can give our lost, there is nothing that can take the place of flowers, fresh flowers. They may be either cut or growing, the last, of course, the best, and when flowers cannot be had, or in places where they will not grow, there is Ivy. That is always green and beautiful, and outlives everything. To my mind there is nothing more appropriate and restful than a simple cross on which the small-leaved Ivy is closely clinging, and when at certain seasons flowers are added, nothing makes their colours look so fair or so well displays their exquisite whiteness as a background of glistening Ivy.

In these latter days, busy and hurried as they are, the earthly resting places of our friends and loved ones are not forgotten. Of many hallowed, peaceful, quiet spots, where flowers and sheltering trees abound, might be used the quaint, old-fashioned words:

"No daintie flowre or herbe that grows on grownde,
And smelling sweet, but there it may be found."

F. A. B.

NOTES OF THE WEEK.

Proposed new garden of the Royal Horticultural Society.—We would remind our readers that a general meeting of the Fellows of the society will be held at the Drill Hall, Buckingham Gate, Westminster, on Tuesday, April 23, at three o'clock p.m., to consider, and if approved, to adopt the proposal of the council to purchase on behalf of the society, for the purpose of its new gardens, 48 acres of land in the county of Kent, forming part of Rabbit's Farm, and adjoining the Little Boys' Home at South Darenth.

Apple Baddow Pippin.—I should be glad to bear testimony to all that "W. O." Fota, has to say in the issue of THE GARDEN for April 13, on the merits of this excellent dessert Apple, which it justly deserves, both for its flavour and long keeping qualities. The following short account of its history, which I have extracted from Dr. Hogg's "Fruit Manual," may prove interesting, and will serve to illustrate how many excellent varieties of late keeping Apples we have in our midst, and which are, so to speak, but little known:—"It appears that Baddow Pippin or D'Arcy Spice Apple—for the latter is the more correct name—was discovered in the garden of the Hall, Toleshunt D'Arcy, near Chelmsford. It was known by the name of D'Arcy or Spice Apple until 1848, when Mr. John Harris, a nurseryman at Broomfield, near Chelmsford, propagated it by grafts taken from one of the original trees and distributed it under the name of Baddow Pippin. A few years later it was catalogued by Mr. Rivers, of Sawbridgeworth, as Spring Ribston, no doubt in reference to its flavour, which somewhat resembles that of Ribston Pippin." It is not a particularly attractive looking Apple, but of its good qualities there cannot be a question of doubt, while, as "W. O." states, it bears freely when established.—A. WARD.

Liverpool Botanic Gardens.—The parks and gardens committee of the City of Liverpool Corporation are entrusted with all matters appertaining to horticulture that are undertaken by the council, and during the last few years their able superintendent, Mr. H. Herbert, has taken up some new feature of gardening, which is thoroughly carried out. The latest venture may now be seen in the form of a show of Amaryllis in the Botanic Gardens, grown under the supervision of Mr. James Gutteridge, the courteous curator. To show that the culture adopted is of the right kind,

and that the exhibit is one worthy of a visit by all lovers of this popular spring bulb, only requires a few important points to be noted. Many of the bulbs are 4 inches in diameter, one of the flower stems when measured gave the result of 4½ inches in circumference. In a few cases the spike is carrying six flowers, and in the case of one bulb two spikes were thrown up, each carrying six blooms. Several bulbs have produced three spikes, the blooms generally were large and of good substance. Next spring some 2,000 seedlings raised by Mr. Gutteridge, and a similar number at Sefton Park are expected to come into bloom, and undoubtedly from the good type shown a strain of fine varieties will result. Orchids, forced spring flowering plants, and bulbs are a great attraction, the Easter holidays bringing crowds of visitors.

Presentation to Mr. and Mrs. Bogie, Auchans Gardens.—On the evening of Saturday last a few friends met in the house of Mr. and Mrs. Bogie, Auchans Gardens, Dundonald, to do honour to them on the occasion of their leaving the district. Mr. Bogie having been appointed land steward to Sir James Bell, Bart., the new proprietor of Montgreenan Estate. Mr. Caldwell, Kilnford, occupied the chair, and in the course of a most interesting speech referred to the many high qualities of Mr. Bogie, both as a servant and as a neighbour. He had known him for over twenty years, and stated that he knew no one more qualified for the position upon which he was about to enter. Mr. Caldwell also mentioned that what he had said of Mr. Bogie was likewise true of Mrs. Bogie, and complimented her on the very efficient manner in which her duties had been carried out while at Auchans. He wished them long life and happiness in their new sphere. In the name of the subscribers, Mr. Caldwell, Mr. Murchland, and Mr. Hamilton, presented a fine English lobby clock in mahogany case to Mr. Bogie, a beautiful diamond and turquoise gold brooch and necklet to Mrs. Bogie, along with a purse of sovereigns. Mr. Bogie, on behalf of his wife and himself, in a few appropriate remarks, thanked them for the very handsome, but quite unexpected gifts they had just received, and also for the many good wishes expressed for their future prosperity. The clock, brooch, and necklet were supplied by Messrs. J. Cameron and Son, jewellers, Kilmarnock. Mr. and Mrs. Bogie have also received several beautiful presents from private friends.

Hippeastrums at Chelsea.—The centre of attraction in the nursery of Messrs. James Veitch and Sons, Limited, King's Road, Chelsea, lies at the present time in the house filled with Hippeastrums in flower. Every year sees an improvement on existing varieties, both in form and colour, and some at least of the novelties of 1901 will remain as standard varieties for a long time to come. In Messrs. Veitch's collection there are no less than 1,100 different sorts, many of which are now flowering for the first time. Among so many excellent ones it is difficult to make a representative selection, but the following may be taken as some of the most successful results recently obtained by Mr. John Heal, under whose care are the Hippeastrums. Sirenes is a beautiful flower, having a cream-coloured ground lightly marked with rosy scarlet and with white edges; Bessel is a good scarlet, veined and shaded with crimson; Geticus is a fine rose-crimson; Telemus, with a white ground veined with salmon-rose, is a charming flower; Magna, bearing blooms quite 9 inches across, a rich orange-scarlet, is a remarkable specimen of good culture, for it is but a bulb two years old, and is growing in a 4-inch pot; Creon, whose lower segments are salmon-rose and the upper ones veined with a richer and purer shade of rose, is a most delicately beautiful flower, and Acadia is hardly less so; the latter is a large and well-formed flower, the ground colour being a marbled sulphur-white, slightly tinged and veined with light red; Terina has pure white flowers lightly veined with a rich deep rose, quite one of the best of the novelties; Lyrcius is of a rich velvety crimson-maroon, very distinct, and Fucinus has a creamy-white ground, finely marked with deep

rosy crimson, a flower of splendid colouring; Averonicus is one of those that obtained an award from the Royal Horticultural Society last week, and was then described in THE GARDEN; Agneta is a distinct and pretty flower, rich scarlet in colour, shaded with crimson and edged with pure white; Soindia, very good form, dark scarlet with a still darker centre; Taxila, one of the deepest coloured we yet have seen, is a lovely flower, an intensely rich deep crimson; Pinzoon is a Hippeastrum that comes near to filling the florist's ideal so far as form is concerned, the symmetrical petals are a rich scarlet-crimson throughout; another very richly coloured flower is Orneus, a fine scarlet, that becomes more intense towards the bases of the petals. These are but a few of the many choice Hippeastrums in Messrs. Veitch's collection, that all interested should endeavour to visit.

Late kept Apples.—I observe in your report of the proceedings of the fruit committee at the last Drill Hall meeting that you think the collection of Apples shown from Tilgate should have received a higher award than a bronze medal. I would like to explain that the committee considered that too many of the samples included in the collection had been kept far too long, so that they were quite unfit for table, several being very dry and shrivelled, and some others were small and spotted; but it was specially felt that the making of a higher award would be encouraging the storing of Apples long after in the course of Nature they should have been consumed. Generally the smaller samples were imperfectly matured, hence had not kept well, and it was very evident had not been kept in a cool, moist atmosphere, but in a dry one. Apart from good appearance, very late kept Apples should show evidence of proper storing.—A. DEAN.

Best soil for Anemone blanda.—Mr. Arnott in THE GARDEN, page 271, invites attention to the best soil for Anemone blanda. I enclose a few grown here in a mixture of our natural soil of gravelly yellow clay or loam and a little leaf-mould. They have been in the same spot for four years, and I think you will agree that they are of a good size and deep colour. I also enclose some Chionodoxas grown in the same soil, which seem to me unusually large spikes of bloom.—A. J. B., Kent. [The flowers enclosed are a splendid colour, and the plants are evidently in a spot well to their liking.—Eps.]

Winter-flowering Violets.—Those who grow Violets in pots or frames for producing flower during the winter will now be contemplating getting the stock in readiness for the ensuing season. The general method adopted is to select from rooted runners the plants which have done flowering, transplant them in some quarter, usually in the kitchen garden, where they remain during the summer months, afterwards to be transferred to their flowering quarters. Allow me to state that I am a firm believer in the "unrooted cutting" system, the method generally adopted being as follows:—Procure good firm runners about the beginning of May, after making the cuttings in the ordinary way, insert them thinly into propagating boxes, which should be previously filled with a good compost consisting of loam, leaf-mould, and sufficient sand to keep the whole porous; stand the boxes in a cold frame, where, if judiciously shaded and syringed, they will be rooted in about three weeks' time. After they have made sufficient roots to stand exposure the boxes may then be put outdoors in a sunny spot, so as to fully mature the plants; no transplanting outdoors will be necessary. Plants treated in this way do not produce runners to the extent that those planted outdoors generally do; besides, being entirely supported with young or new roots, the plants after being transferred to their flowering quarters soon grow, and are not so susceptible to the ravages of red spider as those that are propagated by division of roots often are. The beginning of September is, I consider, the best time to plant them in the frames. Let the soil be a compost of good loam, with the addition of some of a spent Mushroom bed; a dusting of soot will help to remove any wireworms which may be in the soil.—JAMES SMITH, Sutton Coldfield.

Zonal Pelargonium Fire Dragon.

—This very distinct variety, which comes from the popular F. V. Raspail, when exhibited last season appeared to be rather weak in growth, but I find under more generous treatment it is very free-growing and flowers as freely as its parent, making good trusses of bloom. The peculiar star-like flowers, which remind one of a Cactus Dahlia, are very bright, and for cut bloom it will be sure to be much appreciated. If we can only get different shades of colour by cross-fertilisation, we may have quite as distinct a section in zonals as occurs with the Cactus Dahlias, which are now more appreciated than any other section of Dahlias.—A. H.

Trachelium coeruleum (Throatwort) from seed.

—This belongs to the Campanulaceæ, and comes from Italy. It has several times been referred to in THE GARDEN, but I would like to add a word in its favour and mention that it may be grown from seeds, which, if sown in April, will flower well in August. When treated as an annual it gives little trouble.



TULIPA KOROLKOWI BICOLOR.

The seedlings may be brought on in heat, but, after they are well established, they succeed best in a cool house. Three or four plants may be grown on in each pot, and these will give larger trusses of bloom than those sown or started earlier and stopped. Potted firmly in good loamy compost and well exposed to the light, strong, sturdy plants and good trusses of the beautiful soft blue flowers will prove most attractive.—A. H.

Royal Gardeners' Orphan Fund.

—The thirteenth annual dinner in aid of the Royal Gardeners' Orphan Fund will take place at the Hotel Cecil, Strand, W.C., on Tuesday, May 7, under the presidency of the Hon. W. F. D. Smith, M.P. The secretary (Mr. B. Wynne, 8, Danes Inn, Strand, W.C.) will be glad to hear as soon as possible from those who desire to be present on this occasion, and also to furnish any information that may be required with reference thereto.

Begonia Gloire de Lorraine in spring.

—This profuse-flowering plant is equally adapted for spring as for autumn flowering. This is well shown by a large batch of plants at Rye-

croft Nursery. These were propagated last June, and in December they were stopped back and all the flowers taken off. Placed on a shelf in a warm house, they have branched out and are now a mass of bloom. The foliage is not quite so good, perhaps, as in the autumn, but otherwise they are as satisfactory as might be seen at any season of the year, and the colour is very bright. It seems to me that this useful plant is much more vigorous and gives less trouble to cultivate than when it was first introduced.—A. HEMSLEY.

An amateur's exhibit of Apples.

Mrs. Nix, of Tilgate, Crawley, Sussex, showed an interesting exhibit of twenty-nine dishes of Apples, to which the Banksian medal was deservedly awarded at a recent meeting of the Royal Horticultural Society. Several sorts, such as Gilliflower and Cox's Orange were somewhat out of season, but as all the fruit was in a good state of preservation it is all the more creditable to the exhibitor to have kept them in good condition so late in the season. The varieties

Hoary Morning, Golden Noble, Rymer, and Winter Queening were of splendid colour, while for size and colour combined Lord Derby, Kentish Beauty, Tower of Glamis, Mère de Ménage, Prince Albert, Bismarck, Newton Wonder, and Alfriston were as good now as they could be seen at any time of the year.

A new Tulip.

We were much interested in this beautiful little Turkestan species, shown by Messrs. Wallace and Co., of Colchester, at a recent meeting of the Royal Horticultural Society. Its flowers are about the same size as those of *T. clusiana*, and of extreme beauty in form and colouring; the buds are of a soft buff and yellow tone, and, when expanded, the segments display a scarlet blotch. It is a delightful kind, and well deserved the award of merit given.

Moorea irrorata.

—This interesting Orchid now flowering at Kew for the first time is the only known representative of a genus founded some ten years ago to commemorate the name of Mr. F. W. Moore, Curator of the Royal Botanic Gardens,

Glasnevin, who acquired it at a sale of imported Orchids, and flowered it as far back as 1890. It is, however, through the plant now in bloom at Kew that the public will become acquainted with the genus, which is close to that of *Houlletia*, though distinct from it through the flowers being without a claw and articulated with the base of the column. The plant in question has two inflorescences, one of them bearing sixteen flowers 2 inches in diameter, with spreading sepals and petals of a particularly reddish brown colour, but nearly white at the base. The pseudo-bulbs bear two leaves each, and these are petiolate and plicate, 18 inches to 24 inches long, and more than 4 inches broad. The origin of this plant, which is said to be easily grown in the Cattleya house, is somewhat obscure, but as the original specimen was purchased from plants imported by Messrs. Shuttleworth and Co., from the Andes of New Granada or Peru, it may be assumed that it is a native of that district.—G. S.

Sweet Peas.—Where it is intended to grow Sweet Peas in pots it is necessary to be careful that

they do not get drawn up while they are young, and any that have run away may be stopped. This will not delay the flowering period, or at least only for a few days. I grew a collection in pots last year, and each sort was treated in three different ways, viz., grown without stopping at all, stopped once, and stopped several times. The two first batches were potted on without disturbing the roots, and those stopped once came in within a day or so of those not stopped. Those stopped several times were potted off and grown singly; they were later in flowering, but made dwarf bushy plants. For pot plants I should recommend sowing early and stopping, so as to form bushy dwarf plants. The different varieties vary, but there are many which may be grown singly in pots and by stopping, bushy plants may be formed, which will flower when about 18 inches to 24 inches high. A few thin sticks and twine run round will hold the plants up when they are young; later on one tall stick in the centre will be sufficient, as the tendrils twine round and hold the stems together. Very few ties will be necessary to keep the plants in shape. To flower them well full exposure to the sun is necessary, and they must not be allowed to get dry at the roots.—A. H.

Viburnum Tinus lucidum.—I was pleased to see a note about this in THE GARDEN (page 271) of last week. It flowers with me over a long season.—R. T., Devon.

Gerbera Jamesoni.—This is also known as the Transvaal Daisy, and is a hardy perennial, with splendid orange-red flowers, produced, or rather disposed singly, these are on long slender stalks, and are well shown above the foliage. This plant now forms an interesting feature in Messrs. J. Veitch and Sons' nurseries at Chelsea.

Queen wasps.—As the season for the appearance of queen wasps is now fast approaching, I should like to call attention to a subject mentioned last year in connection with wasps' nests, viz., the advisability of co-operation in their destruction. I suggested that the destruction of wasps' nests was a matter affecting a considerable portion of the community, that it was practically useless for one or two in a village to take up the work unless it was made a general business, and that it might very well be included in the duties that occupy the attention of parish and district councillors. We usually account for between 200 and 300 queens, but despite this, close on 100 nests have to be taken annually, and that within a radius of a little over half a mile, with the garden as a centre. Very little is done elsewhere in the neighbourhood to lessen their numbers, although the representatives of many different trades, as well as gardeners, are loud in their complaints as to the amount of mischief done.—E. BURRELL, Claremont.

Psychotria jasminiflora.—This stove shrub, which by the way is quite as well known by the generic name of *Gloneria* as that of *Psychotria*, is delightful when in flower, the blossoms being of an exceedingly pure white tint, in which feature it has few equals. The *Psychotria* in question forms a neat-growing evergreen, clothed with ovate leaves, some 3 inches or so in length, glabrous above and whitish underneath. The flowers, which are disposed in rather compact terminal panicles, are both in size and shape much like a *Bouvardia*; indeed, it belongs to the same order as that popular genus. It is a native of Brazil, and needs much about the same treatment as an *Ixora*, being quickly injured by an excess of water at the roots. Some neat little bushes of it in Messrs. Veitch's nursery at Chelsea well show its value for flowering at this season, while a succession of blossoms is kept up for some time. A second species, less frequently met with than it was a few years ago, though it still occurs in the "Kew Hand List," is *P. cyanococca*, whose flowers are insignificant, but the berries which succeed them are decidedly ornamental. They are about the size of small Peas, borne in dense clusters, and when ripe of a beautiful blue colour, in which condition they remain some time. This is a native of Nicaragua, and, like the preceding, needs stove treatment.—T.

THE FLOWER GARDEN.

THE GENUS CAMPANULA.

OPENING the "Index Kewensis" at the article *Campanula* one is confronted with a list of species, of varieties, and of synonyms that is truly alarming. The genus *Campanula* comprises no less than 1,038 names of species and synonyms; the latter form more than half the list, for there are not more than 250 species of *Campanula* known, of which 182 were described by Alphonse de Candolle in the "Prodromus," his monograph of the Campanulaceae. Since 1838, when this monograph of De Candolle's appeared, a considerable number of species have been discovered, especially in the Caucasus and in Eastern Europe, which appears to be the geographical centre of the genus.

My friend the late M. Alboff made known* the famous *Campanula mirabilis* (Alboff) not yet mentioned in the "Index Kewensis," and the *Campanula abchasica* (Alboff), *pontica* (Alboff), *Dzaaku* (Alboff), and *autraniana* (Alboff). In a very fine work lately published by Messrs. Sommier and Levier, and that I have just received from them,† the authors published the result of their botanical travels in the Caucasus in 1890. Among other new things are several *Campanula*, none of which appear in the "Index Kewensis." These are *C. Brotheri* (Som. et Lev.), *C. sarmatica* var. *ramosissima* (Som. et Lev.), *C. sarmatica tenuicaulis* (Som. et Lev.), *C. saxifraga* var. *leptorhiza* (Som. et Lev.), *C. petrophila* *exappendiculata* (Som. et Lev.), *C. brassicifolia* (Som. et Lev.), *C. svanetica* var. *appendiculata* (Som. et Lev.), and *C. calcarata* (Som. et Lev.).

These gentlemen assure me that the Caucasus is the special home of the *Campanula*; they say that it is impossible to describe the effect that the pastures present when lighted up by the myriads of the purple bells of *C. collina*. Seeds of many of the above-named new *Campanulas* were brought back by these botanists, who are members of the committee of the garden of La Linnæa, but none have as yet germinated, while *Androsace raddeana*, a much more difficult plant, has succeeded perfectly.

The Caucasus and Asia Minor, with Greece and the Balkan Peninsula, have between them 133 special *Campanulas*, amounting to a large proportion of the whole number of the existing species. The Mediterranean regions and the South of Europe come next, then the northern regions, and North America. The Eastern hemisphere is, with few exceptions, without *Campanulas*. Is it not interesting to observe that the Caucasus, which has but few special *Primulas*, should have so large a proportion of *Campanulas*, while the Himalayas, so rich in *Primulas* of its own, should be so poor in *Campanulas*?

As a rule the distribution of the genus *Campanula* is in dry and rocky lands; it belongs to bright and sunny countries, and represents a flora essentially saxatile. The most beautiful are those that grow in rocky clefts, and while swamps and water meadows do not possess a single *Campanula*, they are, on the other hand, numerous in dry and sunny pastures.

The nomenclature of the *Campanulas* is in a considerable state of confusion, and their synonymy is extremely complicated. Steudel, in his important work on the synonymy of the phanerogams,‡ no doubt gives some useful

information to those who wish to unravel this much entangled skein. But, not only is this book not to be found in all libraries, but one must also take into account the number of species and the numberless synonyms that have been published since 1840, so that since that date the confusion has been much increased. Horticulture on the one hand, and Nature on the other, have produced so many hybrids, varieties, and forms, and it is so difficult to make a clear list of these flowers, that many eminent horticulturists have given it up in despair and will have nothing more to do with it. Still, however much entangled their nomenclature may be, it is fairly clear from the botanical point of view, for, however much the *Campanulas* may vary in cultivation, they always retain their botanical characters.

I have therefore, at the request of the Editors of THE GARDEN, undertaken this treatise with the aim of guiding the many admirers of the *Campanula* on their way through this labyrinth. To read the many articles that have appeared in THE GARDEN during the last few years it is evident that these plants, and especially the dwarf and creeping species, are among English amateurs, some of those that are most liked and oftenest grown.

From the cultural point of view one might establish three, or even four, categories of *Campanulas* in accordance with their needs and their nature, but we will divide them into two groups only, of which one, of less importance in this article because it comprises border and ordinary garden kinds, will be rapidly passed in review, while the second, a subject of careful research, will be treated more at length.

In pursuing this study I have consulted the following works: "Monographie des Campanulacées," by Alphonse de Candolle, in "Prodromus," vol. vii.; Boissier's "Flora Orientalis," vol. iii.; "Flora des Pyrénées," Philippe, vol. ii.; "Prodromus Floræ Colchicæ," by Alboff; "Enumeratio plantarum, &c.," Sommier and Levier; "Atlas de la Flore alpine," by H. Correvon; Steudel's "Nomenclator Botanicus"; "Index Kewensis"; Müller's "Alpenblumen"; Vilmorin's "Les Fleurs de pleine terre"; Nicholson's "Dictionary of Gardening," the French edition, by Mottet; the "Dictionnaire d'Horticulture," of D. Bois; the "Hortus Boissierianus"; the "Sylloge floræ Europææ," of Nyman; the "Jardin du Crest," of M. Marc Michelin; the descriptive labels of our Jardin alpin d'acclimatation, corresponding with each of the species cultivated here on, which observations are noted; also the descriptive labels of the garden of La Linnæa; and, finally, the seed lists of more than 100 botanic gardens and horticultural establishments, in order to determine the horticultural synonymy. The "Index Kewensis" is the guide that we follow in fixing our nomenclature, although it must be allowed that it is not infallible, especially from the garden point of view, for it overdoes the assimilation and reduction of the numbers of species. To its verdict therefore we append certain modifications. Thus it is that from the strictly botanical point of view *Campanulas latifolia* and *eriocarpa* are one and the same plant, yet from the garden point of view they are distinct, because their culture is different and their appearance not identical.

We have therefore in the first place one section of vigorous species belonging to the flora of the plains and of the lower mountain regions. Their culture being of the very simplest it will be enough to give a list, with, as far as possible, their synonyms. It will be understood that the kinds now considered are

the perennials that have been introduced into gardens. Annual species are not mentioned. We follow the order as given in the "Index Kewensis."

- Campanula abietina* (Griseb.), Transylvania.
- " *adscendens* (Vent.), Siberia, syn. *rotundifolia* (Pall. non L.).
- " *affinis* (Roem. and Schult.), Spain.
- " *alliarifolia* (Willd.), Caucasus and Asia Minor, syns. *C. lamiifolia* (Bieb.), *C. macrophylla* (Sims).
- " *americana* (L.), United States and Canada, syns. *C. acuminata* (Michx.), *declinata* (Moench), *asteroides* (Lam.), *obliqua* (Jacq.).
- " *bononiensis* (L.), South Europe, Caucasus and Siberia, syns. *C. obliquiflora* (Ten.), *petraea* (Hall.), *ruthenica* (Bieb.), *simplex* (D. C.), *thaliana* (Wallr.).
- " *carpatica*, Carpathians and Alps of Transylvania.
- " *flore albis*, Hort.
- " var. *pelviformis* (Hort. non Lam.).
- " *turbinata* (Schott), Transylvania, syn. *C. carpatica* var. *transylvanica* (Auct.).
- " *collina* (Bieb.), Caucasus.
- " *celtidifolia* (Bieb.), Caucasus and Levant, included in *lactiflora* in the "Index Kewensis," but clearly distinguishable, as I have been able to verify in the Botanical Garden at Strasburg, where I have seen them growing side by side.
- " *divaricata* (Michx.), North America, syn. *C. virgata* (Raff.).
- " *elegans* (Roem. and Schult.), Siberia, syn. *C. speciosa* (Willd. non Pourr.).
- " *eryocarpa* (Bieb.), Caucasus, syn. *C. macrantha* (Fisch. and Horn.).
- " *glomerata* (L.) Europe and Siberia, syns. *C. aggregata* (Panz.), *barbata* (Spreng. non L.), *betonicaefolia* (Gilib. non Sibth. and Smith), *cephalotes* (Smith), *cephalantha* (Horn.), *cervicarioides* (R. S.), *collina* (Quor. non Bieb.), *congesta* (R. S.), *elliptica* (Rit.), *farinosa* (Bess.), *graminifolia* (Willd.), *micaensis* (R. S.), *petraea* (All. non L.), *speciosa* (Horn. non Pourr.).
- " *glomerata* var. *aggregata* (Willd.).
- " " *fl. albis*, Hort.
- " " *fl. pleno*, Hort.
- " " *dahurica* Hort. non *davurica* (Siev.).
- " " *speciosa* (D. C.).
- " *Grossekii* (Hcuff.), Hungary and Transylvania.
- " *haylodgensis*, Hort., garden hybrid, probably between *C. carpatica* and *pusilla*, mentioned by Mr. Brockbank in the *Gardener's Chronicle*, 1885, ii., page 147.
- " *Hendersoni*, Hort., hybrid between *carpatica* and *pyramidalis*, mentioned by the Rev. C. Wolley Dod in the *Gardener's Chronicle*, 1882, ii., page 502.
- " *lactiflora* (Bieb.), Caucasus, syns. *C. hispida* (Fisch.), *volubilis* (Willd.).
- " var. *cærulea* (Regel), Eastern Asia.
- " *latifolia*, mountainous regions of Europe and Asia, syns. *C. Brunonis* (Wall.), *urticaefolia* (All. non Schmidt).
- " var. *alba*, Hort.
- " " *vericolor*, Hort.
- " " *villicaulis* (Witt.)
- " *latiloba* (A. D C.), Mount Olympus, in Bythnia, and neighbourhood of Toptche, in Anatolia, syns. *C. grandis* (Fisch.) *sessiliflora* (Koch.).

* *Prodromus floræ colchicæ*, Geneva, 1895.

† *Enumeratis plantarum anno 1890 in Caucaso lectarum*, Florence, 1900.

‡ Steudel, "Nomenclator Botanicus," 1840.



RHODODENDRON PRÆCOX IN THE TEMPERATE HOUSE AT KEW

Campanula laciniata (L.), Greek Archipelago (monocarpous and biennial).
 „ *Leutweinii* (Heldr.), Greece, biennial.
 „ *nobilis-macrantha* (Regel), Russia.
 Perhaps a hybrid.
 „ *nobilis* (Lindl.), China.
 „ *persicifolia* (L.), Europe and Asia,
 syns. *C. amygdalifolia* (Salisb.), *decurrens* (L.),
hispida (Lej.), *pumila* (Schmidt), *dasicarpa* (Kit.), *lanceolata* (Presl.).
 „ „ *fl. albis*, Hort.
 „ „ *fl. plenis*, Hort.
 „ „ *fl. albis plenis*, Hort.
 „ „ *coronata*, Hort.
 „ *peregrina* (L.), Levant, syns. *C. hirsutissima* (Cyrill.), *lanuginosa* (Lam.),
pulcherrima, Hort.
 „ *pilosa* (Pall.), Siberia.
 „ *planiflora* (Lam.), North American,
 syns. *C. americana* (Mill. non L.),
declinata (Moench.), *nitida* (Ait.),
pauciflora (Lem. non Desf.).
 „ *primulæfolia* (Brot.), Portugal, syns.
C. peregrina (Hoffm. non L.), *Trachelium* (Brot. non L.).
 „ *punctata* (Lam.), Siberia and Japan,
 syn. *C. Trachelium* (Thunb. non L.).
 „ *pyramidalis* (L.), Mediterranean region.
 „ „ *fl. albis*, Hort.
 „ *Rapunculoides* (L.), Europe and temperate Asia, syns. *C. crenata* (Link.),
glabricarpa (Schleich.), *infundibuliformis* (Bot. Mag.), *morifolia* (Salisb.),
neglecta (Bess.), *nutans* (Lam.), *oenipontena* (Morett.), *racemosa* (Opiz),
rigida (Stokes), *secunda* (Schmidt),
sparciflora (Hort. Mus. Par.), *Trachelium* (Bull non L.), *setosa* (Fisch.),
ucranica (Bess.), *urticifolia* (Turr.).
 „ *rhomboidea* (L.), mountains of Europe,
 syns. *C. azurea* (Banks), *venosa* (Willd.), *pyrenaica* (Hecht), *rotundifolia* (All. non L.).
 „ *sarmatica* (Ker), Caucasus, syns. *C. betonicæfolia* (Bieb.), *commutata* (R. and S.), *gummifera* (Wild.).
 „ *sibirica* (L.), Europe and Asia, biennial.

Campanula spicata (L.), Central Europe, biennial or monocarpous.
 „ *stenocodon* (Boiss. and Reut.), Mediterranean regions.
 „ *Steveni* (Bieb.), Caucasus and Levant.
 syns. *C. altaica* (Fisch.), *infundibulum* (Vest. non Reich.), *lanceolata* (Pall.), *seminuda* (Vest.), *simplex* (Steven), *steveniana* (R. S.), *vittinghofiana* (R. S.).
 „ *subpyrenaica* (Timb.), Spanish Pyrenees.
 „ *Trachelium* (L.), Europe, Asia, and Mediterranean region.
 „ „ var. *dasyarpa* (Hort. De-fregger).
 „ „ „ *robusta* (Hort. De-fregger).
 „ „ *fl. albis plenis* (Hort. alp. Genev.).
 „ *transylvanica* (Schur.), Transylvania.
 „ *urticæfolia* (Schmidt), Europe, syn. *C. Trachelium*, var. *urticæfolia* (Schmidt).
 „ *Van Houttei*, Hort.
 „ *versicolor* (Sibth. and Smith), Greece and Italy, syns. *C. planiflora* (Willd.), *willdenowiana* (R. and S.).
 „ *vesula* (All.), Piedmont.

All these *Campanulas* are grown in gardens, whether in botanical collections or those of amateurs, as well as in those which, like the *Jardin alpin d'acclimatation* at Geneva, take pains to collect rare plants. Many of them are distributed under their synonyms, hence the confusion so justly complained of. It would be a great blessing if a general rule of nomenclature could be adopted such as that of the "Index Kewensis." It would greatly lighten the labours of horticultural editors and owners of collections.

I have to add that the greater number of the *Campanulas*—indeed, nearly all—have violet-coloured flowers, and that cases of albinism are frequent throughout the genus. Nearly all the species named in the above list have varieties with white or pale lilac flowers.

In a subsequent article the more copious and important list of saxatile and alpine *Cam-*

panulas will be considered, namely those that are dwarf and creeping
 Geneva.
 H. CORREVON.

(To be continued.)

RHODODENDRON PRÆCOX.

THE usefulness of this hybrid *Rhododendron* has often been brought under notice for outside effect in spring, but it has not often been recommended for indoor culture. That its proper place is indoors is often seen in early spring, when the flowers are expanding and a night's sharp frost comes, killing every flower that has passed the bud stage. In favoured localities, or when planted in very sheltered positions out of doors, so that little or no frost can reach it, it is without exception the most showy of early spring-flowering shrubs, and when planted in a cold greenhouse, where the temperature is kept just above freezing point, the same thing may be said of it. At Kew several plants are flowering profusely in the Himalayan house, the largest specimen being 4 feet high and 5 feet to 6 feet in diameter, the flowers being so dense as to almost hide the leaves.

It is probably the best of the numerous hybrids raised by the late Mr. J. Davies, of Ormskirk, between *R. ciliatum* and *R. dauricum*, its early flowering out of doors being its worst point. Grown in pots it is useful, but planted in a border it gives greater satisfaction.

W. DALLIMORE.

TREES AND SHRUBS.

HARDY PLANTING FOR WINTER AND SUMMER EFFECT.

MANY able and practical writers have written frequently in the Horticultural Press on the above subject, and yet their advice has not been followed to the extent it most certainly deserves. Bold planting and grouping together of suitable subjects—of which there are many—either on the pleasure ground proper, on the margins of woods, lakes, and streams, or particularly in the semi-wild garden, when judiciously carried out, presents such a pleasing and telling effect at all seasons of the year, and, considering the upkeep of which, after the first outlay, is very small, it is hard to understand why it is not more generally adopted, for only when massed together and properly treated can the real value of many of our more common hardy shrubs be appreciated. When dotted about in the mixed shrubberies, as these far too often are, little beauty can be seen in many of them; but, on the contrary, when a sufficient number of plants is grouped together and taste is displayed in the arrangement, even the commonest kinds will create a charming and effective picture, if not the whole year through, certainly at one season or another. How beautiful might many a piece of unsightly land be made with little trouble and expense by such planting, either viewed from a long or short distance, and more especially during the winter months. For some years we have practised this way of planting to a considerable extent, and for the benefit of others that contemplate doing likewise I will endeavour as briefly as possible to relate my experience by giving a list of those which have proved to be most satisfactory, and

the treatment of the same. The chief desire here has been to create autumn and winter effect, and I may mention that Nature has assisted us but little, as the land is not undulating but generally flat and uninteresting, consequently much thought and attention have been devoted to attaining the object in view.

The natural landscape of the ground to be planted must determine the form of the grouping, which in nearly all cases will suggest itself to a practical man. Of course the more extensive the scope one has to deal with the larger should be the masses of each particular plant, and I will point out here that, except in few cases, no two plants grown either for the beauty of their foliage or wood should be mixed together, as a much more striking and conspicuous display is produced when they are kept apart.

Having determined on the sites to be planted, white stakes should be employed for marking the outline, and as much as possible, except in any formal part of the garden, bold and irregularly-shaped plantations should be arranged. Particularly should this be kept in view in all places outside the garden. The ground should be thoroughly trenched, and poor land well enriched with farmyard manure, and the planting proceeded with either in spring or early autumn. The kind of planting I am about to advocate will apply to low-growing subjects suited for the purposes I have mentioned above. I will first of all deal with the deciduous section.

ACER NEGUNDO VARIEGATA

is well known for its beautiful variegated foliage, delightful in spring and summer, and best suited for garden planting. Dwarf plants should be used, and if large beds are being planted a few half-standards arising out of the carpet at a good distance apart will enhance its beauty. The dwarf plants should be arranged at a distance of 3 feet apart. An annual pruning should be given during winter, shortening back the summer growth to within three eyes of the base. The half-standards should be thoroughly staked, and, except keeping the ground clear of weeds, little other attention will be required.

ARONIA FLORIBUNDA SYN. PYRUS ARBUTIFOLIA.

A delightful plant when grown in bush form, bearing sweetly-scented Hawthorn-like flowers in May, very effective, and succeeded by a wealth of deep purple berries in autumn. This should also receive an annual pruning during winter or early spring. Allow a distance of 2 feet 6 inches between the plants, which are well suited for any purpose. The ground should be kept clean underneath it.

BERBERIS THUNBERGI.

Few deciduous shrubs can excel this for its beautiful foliage during the autumn, and it deserves to be planted more extensively. In no position is it seen to better advantage than when planted in large masses over bold pieces of rock. The shrub should not be pruned, but allowed to retain its natural habit, and will succeed in almost any kind of soil. I know of no plant better adapted for such positions.

BERBERIS VULGARIS PURPUREIS.

This has deep purple foliage of a very pleasing shade, and it bears bright scarlet berries in autumn, succeeds best on chalky soils, should be cut close to the ground every third winter, and the soil left undisturbed about the roots.

COLUTEA ARBORESCENS.

The Bladder Senna is well suited for the semi-wild garden, and will succeed in almost any position and on any kind of soil. Its yellow flowers in July are pretty, but the seed vessels during winter are most effective; it should be pruned back hard annually. There are several varieties, each of which are equally well adapted for this purpose. Plant 3 feet apart.

CORNUS SANGUINEA (DOGWOOD).

Few deciduous plants are more easily grown or more effective during winter than the Scarlet Dogwood. It may be grouped in any position either in the gardens or outside when of any

extent, and when space is no object the beds or groups can hardly be made too large. The foliage attains a beautiful bronze tint during autumn, but, unfortunately, is of very short duration. The position should be an open one, and it is absolutely essential that the growths be cut to the ground annually the first week in April, bearing in mind that it is only the young wood which puts on its brightly coloured robe in winter, and the more intense the cold the better colour will be the wood. Plant 3 feet apart. *Cornus sanguinea variegata* is a beautiful silver variegated form of the above, but not so vigorous. It is very fine for summer decorations, and best suited for the gardens; the ground requires to be well manured. Plant at a distance of 18 inches, and prune annually. The scarlet wood, though small, is very pretty in winter, but not showy enough in the distance.

CORNUS ALBA SPÆTHI

has beautiful golden foliage in the summer, but is too scarce and not vigorous enough to plant to any extent. Requires the same treatment as the above.

CORYLUS AVELLANA PURPUREA.

One of our best purple-leaved plants, especially so in early summer. Arrange to plant this in a close vicinity to *Acer negundo variegata*, *Sambucus nigra aurea*, or both, and the effect produced will be charming. It will succeed on almost any kind of well-trenched ground. Plant the shrubs 3 feet apart, and they will require little attention, but every fifth year the shoots should be cut clean to the ground, when the growth and foliage will be much more robust and telling.

COTONEASTER SIMONSI.

A strong growing shrub, and suitable for making large groups; it is very effective during autumn and winter when studded with its red berries. It should be planted 3 feet apart and not pruned, but about every fifth year it should be cut close to the ground.

CYDONIA JAPONICA.

This well known early-flowering shrub when planted in groups is suited for almost any position, but is seen to the best advantage when planted on raised ground or overhanging masses of rock. It should not be pruned, but allowed to retain its natural habit. Plant at a distance of 4 feet apart. The variety *carnea* is equally good, but bears more freely; the fruits make excellent preserves, while the flowers are a beautiful flesh colour. *C. Maulei* is quite distinct from the above, but equally valuable for the same purposes, and flowers and fruits most freely.

CYTISUS ALBUS MULTIFLORUS,

the common White Broom; *C. scoparius*, common Yellow Broom; and the effective although newer variety *C. scoparius andreaeanus* are all delightful plants when extensively planted, not only when in flower, but their fresh looking green wood is pleasing at all seasons. Plant early in April 3½ feet apart, using small plants. None of the Brooms like being cut back to the hard wood, but the young growths may be shortened back after flowering. *C. s. præcox* is perhaps the best of the whole family, flowering profusely, and is of good habit. It should be planted 4 feet apart.

SPARTIUM JUNCUNE,

the Spanish Broom, flowers in early autumn and lasts a considerable time. Its bright yellow blooms are very telling in the distance. Plant 4 feet apart, and prune after flowering.

DAPHNE MEZEREUM AND D. MEZEREUM ALBUM

are among our earliest and most beautiful flowering shrubs. They should be planted 4 feet apart, either immediately they have done flowering or in very early autumn, both flourishing best on light soils.

DIMORPHANTHUS MANDSCHURICUS SYN. ARLIA MANDSCHURICA.

This fine tropical-looking plant when planted in large beds forms a magnificent feature during the summer months, and in the winter the stems when bare are both curious and interesting. It enjoys a

deep rich soil, and is easily propagated from root suckers. Plant at a distance of 5 feet apart.

EUONYMUSES.

The true variety of *Euonymus alatus americanus* must rank as one of the best plants for autumn effect. Words can hardly describe its beautiful tints. It is a slow grower, but will succeed on almost any kind of soil. Plant 3 feet apart. *E. europæus* (the Spindle Tree) should be planted in large beds or masses at a distance of 4 feet apart, and pruned annually. It is worthy of a place by the side of any woodland walk or in the semi-wild garden. Thus treated it will fruit most freely, and its pretty pink berries hanging in thick bunches are sure to attract attention. The white variety, though as pretty, does not fruit so freely.

FORSYTHIA SUSPENS.

This is most effective when planted in any position in the gardens or grounds. It makes a delightful bed when planted at a distance of 4 feet apart, and should not be pruned. *F. viridissima*, though not such a pretty kind as the above, is equally well suited; it flowers profusely. Both of these flower during March and April. The surface-soil should be pricked over every spring.

FUCHSIA RICCARTONI.

This charming old garden plant makes magnificent beds in any part of the grounds. It should be cut down close to the ground every spring and receive a mulching of half-decayed manure. This is not planted half so largely as it deserves to be.

HYDRANGEA PANICULATA GRANDIFLORA.

This is perfectly hardy, and few flowering shrubs are more admired during autumn than the above when planted in large beds. They should be planted in a deep rich soil, in a moist position, 3 feet apart, and pruned back hard annually at the end of March. We have some of these which were planted sixteen years ago, and have never once failed to make a splendid display. The surface-soil should be pricked over early in spring.

HIPPOPHÆ RHAMNOIDES (THE SEA BUCKTHORN).

This will succeed well in any deep moist soil. Its beautiful grey foliage shows up well during summer, and when the male and female plants are mixed together the branches will be wreathed with clusters of beautiful orange-coloured berries during autumn and winter. Plant 5 feet apart, and somewhat in the background. Very little pruning will be required, except to regulate the growths. Prick over the surface soil annually. The Sea Buckthorn also lends itself admirably for planting by the sides of lakes and streams or at the back of rockwork.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

(To be continued.)

AMATEURS' PERPLEXITIES.

FORCED STRAWBERRIES IN FRAMES.

WOULD you please give me some advice as to forcing the Strawberry in frames? There is no lack of advice as to forcing in houses for early supplies, but as I can only give frame culture, any information would, I feel sure, be valuable to many of your readers.

A. A.

[You do not say at what season you require your ripe fruit. Of course, with frame culture you cannot force very early, and much depends upon the frames, if heated, also the variety of Strawberry forced. Take heated frames first. By these we mean those of ordinary build, having, say, a flow and return pipe round them within a foot or so of the glass. In such a structure good fruit may be gathered early in May; indeed, the best fruits of British Queen we ever saw were from a frame in an amateur's garden; and if the queen of Strawberries can be grown thus, there should be no difficulty with other kinds. First of all, decide whether to grow pot plants or those planted out. Now the last-named should not be grown in heated frames, though there is another method, and that is to lift from open ground and force, but we do

not advise it. Cold frames are more suitable for plants grown in them from the start, but here there is a serious objection; the frames are needed only for, say, three months out of the twelve, and if grown thus we would advise movable ones that could be put to other uses when not required for the Strawberries.

Take pot plants first. The plants are secured from strong runners the previous July, and potted up into 6-inch pots. We need not go into details of potting or preparation, as the work is much the same as for forced plants for earlier supplies, and is fully described in our "Gardening of the Week" in its proper season. We would add, the plants are grown as hardy as possible through the late summer and autumn, and the roots protected in winter. In the spring they are placed in the frames, but a great deal depends when you require fruit; if, say, the early part of May, house the plants three months before the fruits are needed; but every week, as the days lengthen, growth will be stronger, and plants will force more readily in April than March, so that if placed under glass in April they would be ripe in eight to ten weeks, or less if fire heat can be given.

When placed in position the plants should not be too far from the glass; a distance of 2 feet is ample, as the more light they receive the stronger the bloom. The pots may either stand on a hard coal-ash bottom or on boards or an improvised stage at the start. Damp overhead twice a day in bright weather, and close very early to get the benefit of the sun's rays. As the flowers open cease syringing till fruits are set and give air freely, and when set thin the fruits to nine or twelve at the most, and support the trusses with twigs or small sticks. Now you may feed freely, and at no time should the plants be allowed to get dry. In fine weather it may be necessary to water twice or more daily. As soon as the fruits colour cease feeding; also damp overhead, and give more ventilation. Grown thus you will get fruits equal in flavour, and size also, to those from the open ground. It is not really necessary to grow in pots; we have seen excellent fruits from lifted plants, also from boxes, but if grown in the latter way there must be ample roots to carry a crop.

We have referred to plants in movable frames. These are very useful and give little trouble, and of course no heat is employed. We should have stated above, never use much fire heat; this is fatal in the early stages of the plants, 55° to 60° at night not being exceeded. A quarter of strong

runners should be planted for frame work as early as good runners can be secured, and if possible on a warm border facing south. If the border be raised so much the better. All runner growth in the growing season should be removed and the plants kept fed with liquid manure to build up strong crowns. The plants covered in February will give fine fruit late in May or early June, some little time in advance of those in the open ground, and will give other crops years after; but the best fruits are secured from young plants. By planting every season more plants may be employed; 15 inches to 18 inches apart always will suffice. The fruits are later than from pot plants, but there is little trouble with plants grown thus if such varieties as Royal Sovereign or Sir C. Napier are planted. These crop grandly. This is also a good way to grow the British Queen in gardens where this variety fails, as the land for a few plants can be specially prepared. Of course, the last-named is not an early variety, but one of the best for flavour. It does not crop so freely as those named above, and we would advise our readers to give those of free growth a trial before trying others less trustworthy.—Eds.]

A DEW-POND IN THE ISLAND OF ASCENSION.

ASCENSION is a solitary island in the South Atlantic belonging to Great Britain, between 600 and 700 miles north-west of St. Helena. Its origin is attributed to volcanic upheaval. Its thirty-eight square miles of surface show a number of ancient craters and a general covering of volcanic *debris*. There is no vegetation except on the Green Mountain, which rises to a height of a little over 1,800 feet. The flanks of the mountain yield the very scanty supply of fresh water which is laid on by pipes for the supply of the garrison at the landing place, about four miles distant. The dew-pond, of which we are able to give an illustration, is thus described by Mrs. Gill, who in 1877 accompanied her husband on the astronomical expedition of that year to observe the opposition of Mars. The dew-pond had then been only lately made, and had not reached the point of success shown in the picture. It is best described in the words quoted from Mrs.

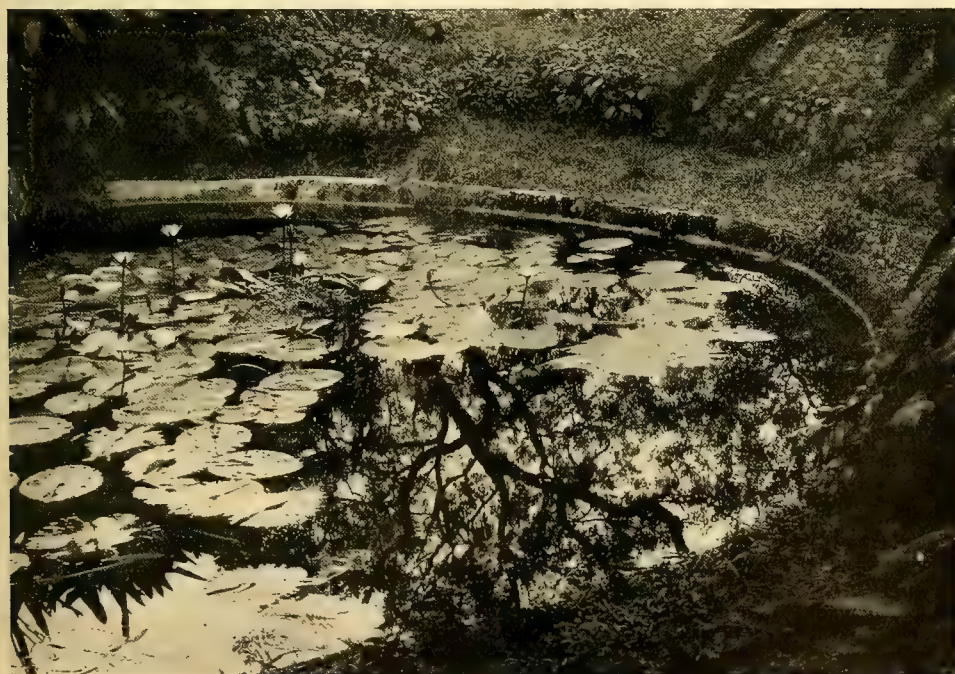
Gill's extremely interesting book on this little-visited island, whose title is "Six Months in Ascension": "Within a few feet of the top of the Green Mountain, and surrounded by a thicket of little trees, we came upon the dew-pond, a cement-lined cup about 20 feet in diameter, meant to receive and retain any moisture that might be deposited here. It was at this time too new an experiment to have entirely succeeded; but even now a muddy pool lay at the bottom, giving hope for the future."

THE UNHEATED GREENHOUSE.

IV.—REGULATION OF TEMPERATURE.

It must be always borne in mind that shelter, not coddling, is the aim and end of the unheated greenhouse, and the grand difficulty, in face of the cold house garden, is how to maintain a fairly equable temperature. When the selection is limited to strictly hardy plants, the regulation of cold is, probably, of less importance than that of heat, but when half-hardy plants and bulbs come within the range of our desires (and it is well that they should), the greenhouse thermometer in winter must not be allowed at any time to fall below 35° Fahr., which is the lowest temperature at which frost can safely be kept at bay. But the owner of an unheated plant house aims at reaching a point beyond mere safety. He is ambitious enough to hope that his winter conservatory may rival, if it may not in some degree even surpass, the hot house devoted to tropical plants, by its wealth of flower and greenery gathered together from distant quarters of the temperate zone. Emulation, it is true, strikes but a low note in the scale of ethics, but human nature needs a healthy stimulus to rouse it into action, and so we are none the worse for a friendly contest with a neighbour! But there does come a time when winter is at its darkest and coldest, from the shortest day onwards for a few, very few, hard weeks, when it must be confessed that it is almost impossible to keep up a bright display of flowers in a greenhouse that is totally unheated. Not quite impossible, for we are by no means at the end, but rather at the beginning of our possibilities in this direction; yet even very hardy plants have a trick of looking self-conscious and rueful in a black frost, and it is the very motive of the cold greenhouse to make hardy plants comfortable and to coax them into untimely flowering. Personally, I have always been quite content with a small portable apparatus, called a heat radiator, invented by Mr. Gillingham, of Chard, an extremely able mechanic. There are portable stoves of many kinds, but for simplicity and efficiency the small brass cylinder which goes by the above name leaves little to be desired, save, it may be, an absolute certainty that it will not smoke. This calamity, which is the result of careless trimming of the lamp, did happen to me once with direful results. There are several other inventions for the purpose, none of them perhaps without some drawback, and every season sees new additions to the list. A demand seriously maintained for a perfect removable apparatus of sufficient power to keep out frost will surely call forth, in these days of invention, exactly what is required. It cannot be claimed for the heat radiator that it is perfect, but its principle is excellent, it is not unsightly, and it is better suited for its purpose than any other portable stove known to me. During those few dreary weeks to which reference has been made it has always been a simple matter to keep the air circulation, with a night temperature between 35° and 40°, which was all that was wanted to make Daffodils and winter Iris and a host of charming spring flowers hold up their heads in happy contrast to their fellows in the garden outside.

It may be worth while to make a note of a very rough-and-ready contrivance which has been successfully extemporised on occasion for keeping out frost. An ordinary lamp is lighted and placed on the floor, with a pillar of bricks on each side to form a support for a very large flower pot, which



A DEW-POND IN THE ISLAND OF ASCENSION.

is inverted over the chimney. Upon this a pyramid of inverted pots, each a little smaller than the last, is built up, and the hot air rising through the holes of the pots heats them through and through, and thus a stove may be devised on the spur of the moment which will diffuse an atmosphere genial enough to keep the enemy, for the nonce, out of a house of moderate dimensions.

VENTILATION.

By some strange perversity the proper ventilation of the amateur's greenhouse is often one of the last details of construction to be considered, which would never happen if experience could only be bought ready made. Plenty of air is as necessary to plant life as to human beings, and it would seem to be as unreasonable to plan a greenhouse without ventilation as to build a cottage with windows not made to open; yet it is by no means an unheard of case for a greenhouse (mostly of the smaller sort) to have no other means of ventilation than the door, while, even in more important structures, roof ventilation is the exception rather than the rule. For perfect efficiency there should be not ventilators merely but a system of ventilation. Free circulation of air is indispensable, but it is not always recognised on the other hand that draught is most injurious to plant growth. The shrivelling of tender foliage, especially of Fern fronds, generally set down to want of water, is due more often than is suspected to exposure for a few hours to cross currents of air. It should be possible, therefore, in all greenhouses to "put on" and "take off" air, in gardening phrase, according to the way of the wind, and in order that this may be done effectively ventilators fitting closely and firmly must be provided both at the top and at the sides of a plant house. A span roof 20 feet in length should have four ventilators placed alternately at each side, and over these, upon the ridge, it is well to have a wooden cap as an additional safeguard against drip. Strong hinges of the kind called "water joints" are to be recommended as being more durable than the ordinary make. In a long house it is a great saving of labour to be able to open and shut these top ventilators simultaneously by an iron winch. Side ventilation is provided for, either by having the lights made to open or by wooden shutters let into the brick walls. The latter alternative is in use, mainly, when the span roof rests upon the wall-plate—a form of glass house rarely seen in any but professional gardens, though such "pits" are admirably adapted for plant culture.

It is difficult to lay down precise rules for ventilation, but as a general principle it must be understood that the treatment of plants in an unheated greenhouse is in strong contrast to that given in the stove, where a close humid atmosphere does no harm. There are not many days in the year, even in heavy fog, when at least a chink may not be left open to allow free circulation of air, for though it is a common practice to keep greenhouses closely shut in foggy weather, a little dampness from outside is actually less harmful than stagnant damp within. In winter it is always safer to open the upper ventilators rather than those at the side. The chief trouble comes in the early days of spring, especially if we are ill-provided with blinds. Then the thermometer is apt to rush

up to 80° or so on the slightest hint of bright sunshine on the glass, while a keen wind may be blowing from north and east. It is often hard enough, under circumstances like these, to know how to regulate the temperature. The temptation is to open side lights as well as roof ventilators and to let in all the air we can, for scorching heat is as bad for hardy plants as frost for those that are half-hardy, yet even hardy plants under artificial treatment easily "catch a chill" at the roots in this way, from which they may never recover. At such a moment we find ourselves on the horns of a dilemma, and very much inclined to sympathise with the pitiable case, near akin to our own, of the gardener of whom Mr. E. V. Lucas tells us, who wrote to his employer: "I'm varry sorry to tell you that I cant do enaything with

it so built that the lights can be altogether removed when required. Of late portable houses on rails for forcing Lily of the Valley and other temporary crops have come somewhat into vogue, and some adaptation of the idea might be of value for the glass garden. In any case spare lights can always be used to good purpose in various ways, e.g., for Tomatoes during the summer, and need not lie idle.

SHADING.

It is from February onwards that shading, no less than the ventilation, of the unheated greenhouse becomes a serious question. The shelter of glass from storm and stress is heartily welcome, as we know, to hardy and half-hardy plants which flower at inclement seasons, yet no sooner does the sun begin to shine in his strength than the glazed roof is apt to become a funeral pall. If the scorching rays are not by some means tempered a sudden farewell will have to be taken of fading and withered flowers. Tulips open wide and pale beneath the ardent sunbeams. Narcissii lie prostrate and can never more be persuaded to lift their languid heads. Rhododendrons and Azaleas hopelessly cast off their flowers and dangle them in an aggravating way by their long pistils. Camellias put on brown edges in token of mourning, and every flower

seems to pant out a feeble protest against the cruel fate that took them away from the fresh open air and consigned them to a furnace—so soon are benefits forgotten when times are changed! But blinds of tiffany or thin strong netting—materials which give sufficient but not too dense shade—fixed on rollers, so that they may be raised or lowered at pleasure, will save all this disaster. Sometimes the sunshine lasts but an hour or two, yet every gardener knows that more mischief can be done by an hour of neglect than can be repaired in a season, for it is not only the flowers that suffer but serious and lasting injury is done by the scorching and scalding of tender leaves, which are in truth the lungs of the plants. Permanent shading is sometimes given by washing over the inner surface of the glass in spring with "Summer Cloud" or some similar composition, and not removing



SEMI-DOUBLE CAMELLIA LADY WHITE.
COLOUR, WHITE FLAKED WITH DEEP RED
(SANDER).

(From a drawing by H. G. Moon.)

the greenhouse. I think he will kill every plant I have sometimes he will get varry hot and another time I cant get enay heat in him and we cant stope him from smoking so I doant know what to do with him!" Happily the troubles of the cold house gardener are in great measure simplified, and if the ample provision which is so essential be made for ventilation, experience will soon teach the necessity of avoiding draught. Only let it be remembered at the same time that a stuffy stagnant atmosphere, persisted in for a few days only, will surely set up an invasion of that very infectious complaint "damping off."

For eight months of the year it is scarcely possible to give too much air, and where it may chance that a glass house is chiefly used for the shelter during winter of half-hardy shrubs, or Roses planted out, it is an excellent plan to have

it until the autumn, but it is only rarely expedient. Plants subjected to constant shade soon get drawn up in a vain attempt to reach the light, and their leaves grow pale and sickly. Occasionally, however, shading of this kind may be used with advantage in a Fern house or for a conservatory built in the eye of the sun, the tenants of which are continually shifting their quarters. In such cases permanent shading—i.e., for the summer—may be an actual gain, but no clouding of the glass looks well, and it is at best but a poor makeshift. For many years during the bright months I used fixed blinds with the best success in a sunny conservatory which had no established occupants. These were made of very thin strips of wood painted green, through which the light passed freely but with a softened shade as of sunshine in a Hazel coppice, full of restful

harmony. I never saw such as these elsewhere, but in some positions nothing could serve the purpose better, and many comments of approval were bestowed upon them. In most plant houses of the kind under consideration, however, roller blinds are undoubtedly the best. Where these cannot for any reason conveniently be fixed, tiffany may be fastened to the rafters by hooks and rings, though at the expense of a good deal of time and trouble in putting up and taking down. It should be hooked to the rafters rather than to the sash bars to allow the hot air to circulate freely between the shading and the glass. K. L. D.

(To be continued.)

AN ARTIST'S NOTE-BOOK.

SOME OF THE NEWER CAMELLIAS.

WELL within the memory of the middle-aged the full double flower, with its regularly imbricated petals, was considered to be the perfect type of Camellia, though looser flowers, including those with a so-called Anemone centre, were also grown. The last decade or two has, however, changed all this, and now, as in the case of the Chrysanthemum, Dahlia, Hollyhock, &c., single or semi-double blooms have numerous admirers, the heavy formal flowers being replaced by the lighter

and freer ones, thus imparting a grace and elegance which was unknown among the older kinds. Many of these forms are grown by the Japanese, with whom flowers that are at all quaint or show a marked divergence from the generally cultivated type are very popular. Numerous examples of this may be seen in the Japanese drawings, and they also occur plentifully in the catalogues of nurserymen from that "England of the East."

Our own nurserymen, too, have of late taken them in hand to a greater or lesser extent, and last year Messrs. Sander, of St. Albans, once identified solely with Orchids, but now interested in a most comprehensive collection of plants, exhibited some charming varieties of new Camellias at the Royal Horticultural Society's meetings in the spring. One of them was the variety here illustrated (Lady White), the colour being white flaked with deep red. A second variety from the same source (Lady Audrey Buller) was figured in THE GARDEN, March 3, last year. This is a large flower, single, or nearly so, the petals being particularly broad and of a pleasing rose colour. Lady Roberts, pink, edged with white (a semi-double flower), was also shown at the same time as the others, while an award of merit was bestowed upon Camellia General Hector Macdonald, a large rich red, fairly double variety. These newer Camellias have none of the stiffness or formality of so many of the older kinds, and if these plants are ever to be reinstated in the position they once held in

popular favour it will be by means of varieties such as these. For the vagaries of fashion there is no accounting, and the Camellia may some day come to the front again. H. P.

HYBRID WATER LILIES.

THE PLANTING SEASON.

WATER LILIES are gaining in importance yearly. In addition to the new kinds, splendid in size and varied in colour, already sent out, there are others to follow, and no one can say where the end will be. Those at present to be had have been fully described in these pages, and another year's experience of them further proves their sterling merits. Those who have facilities for their growth ought to grow them, and now is the proper planting time. The plants want nothing better to grow in than the natural mud deposit of lakes and ponds. To see the delicate colour of the noble Lilies they want to be placed where the eye can see into them, as on the lake shown in the illustration; therefore they should be not far from the margin of the water. To do them well a bank of rich mud should be gathered together, and if there is an abundant deposit at the bottom, the water might be let off now and the mud collected at the sides where it is proposed to put the plants. A great depth of water is not required—in fact, it is rather against the plants unless they are very large and strong. A clear foot of water above the surface of the mud is ample for even



HYBRID WATER LILIES ON THE LAKE AT GUNNERSBURY HOUSE.



RHEUM OFFICINALE IN THE WILD GARDEN AT CROWSLEY PARK.

the largest and strongest growing kinds, and they thus feel the influence of the sun, which brings them quickly into flower. Even the many artificial ponds that abound in gardens may be tolerated for the future if those who have them will see that they are filled with the new Water Lilies. These, if the bottom is of concrete or asphalt, must have banks or mounds of soil made for the plants, and the winter is the best time to do the work. If such preparations as are really necessary to their permanent well-being are made in the winter, lakes and ponds will be refilled by the winter rains, and all that has to be done in spring is to put the plants into some old wicker baskets with some soil to keep them from floating and sink them where they are to grow. It matters not how old the baskets are if they hold together for the planting. Water Lilies may be planted as soon as the mud banks are made, provided there are strong plants in the place or friends are going to supply them, but the advice here given applies to newly-purchased plants. The advantage of procuring them in spring is that a growing season is before them, and the danger of loss is considerably minimised. The greatest enemy to young growing plants is the grub of the caddis fly, which fastens on to the leaf-stalks and feeds on them till they are eaten asunder. Strong plants are proof against it, but young ones may be further weakened by the loss of all their leaves, although they generally grow again in July when the grub ceases to be troublesome by changing its state. A.

RHEUMS.

WHERE there is plenty of space in the outlying parts of the garden or any place where a large effect of noble foliage and colossal bloom is desired, nothing can be better than the great Rheums of Middle Asia. Of these the best are *R. Emodi*, a giant Rhubarb of the Himalayas and *R. officinale* from Thibet.

Their large leaves are handsome in themselves, but when the great panicles of creamy bloom are thrown up 8 feet or 9 feet they are a surprising as well as a delightful sight. They would be grand things for bold grouping in a large space of distinct form, such as the slopes of *débris* in a disused quarry.

RECENT PLANT PORTRAITS.

THE third part of the sixteenth volume of *Lindensia* contains portraits of the four following Orchids:—

Galeandra Batemani.—A handsome showy kind with pendulous bunches of half a dozen medium sized flowers, whose sepals are gold colour, the outside of the tube white, the inside deep purple margined with white, and a golden throat.

Dendrobium hookerianum.—An exceedingly handsome variety with large gold coloured flowers having two carmine fringed spots in the centre, with a small pure white spot above them.

Odontoglossum crispum var. *Quo Vadis*.—A handsome and distinct variety with medium sized flowers of a pure white with large clearly marked spots of a bright rosy purple. The name, however, seems somewhat ridiculous and ill chosen.

Cypripedium lathamianum var. *latissimum*.—An exceedingly handsome and abnormally large flowered variety with an unusually pure white upper sepal beautifully veined with rose colour.

The April number of the *Revue de l'Horticulture Belge* contains portraits of a fine double flowered *Azalea indica*, named *Paul Weber*, with deep rose-coloured flowers broadly margined with pure white, also of *Nicotiana colosseae variegata*, one of the handsomest variegated foliage plants in existence, and most useful for sub-tropical bedding.

The first part of the *Revue Horticole* for April contains a portrait of *Pentstemon heterophyllus*, a pretty species with violet and white shaded tubular flowers.

The *Botanical Magazine* for April contains portraits of *Cladrastis tinctoria*, a native of the Western United States, also known as *Virgilia lutea*. This is the Yellow or Gopher Wood of

commerce; it was introduced into England in 1812, but flowered for the first time at Kew in 1900. Its flowers are produced in a long pendent panicle resembling those of a pure white *Acacia*.

Amorphophallus leonensis.—A native of western tropical Africa, also known as *Corynophallus leonensis*, *C. Afzelii*, *Hydrosme leonensis*, and *Arum aphyllum*. This is an ugly botanical curiosity having a purple spathe with a white base, and requiring the temperature of a stove.

Kalanchoë farinacea.—A native of Socotra. A rather pretty crassulaceous plant with curious spoon-shaped glaucous foliage and bunches of small bloom, the lower half of the flower is yellow and the upper bright red.

Rosa fedtschenkoana.—A native of Turkestan. This is a pretty single white-flowered species with almost black bark on the older branches and red-brown on the younger. It bloomed at Kew in June, 1900, and ripened fruit in the following September. Dr. Regel describes four forms of this Rose. The scent is unpleasant.

Stapelia nobilis.—A native of South Africa. This distinct and handsome species is closely allied to *S. gigantea* (t. 7068), the flowers being similar in colour but much smaller. It bloomed at Kew in 1900 in the succulent house. W. E. GUMBLETON.

A CITY RECTORY GARDEN.

THOSE who are at all familiar with the City of London will doubtless remember a church which stands in Queen Victoria Street, between "the Bible House" and the *Times* office, and they may have also noticed at the east end of this church a flight of steps called Wardrobe Terrace. If they had the curiosity to mount these steps and bear round to the left they would find themselves in a narrow passage which makes a short cut to St. Andrew's Hill, and they will have noticed that while the church stands on one side of the passage, the other side is formed of an uninteresting brick wall, intersected only by two opaque glass windows, through which a few green plants can be dimly seen, and by a door leading into the garden behind the house. If by good luck, as they passed, this door happened to be open, they would see a sight which would surprise them! The first thing that would meet their eye would be the subject of the accompanying photograph. The foreground consists of a bank of rockwork, interspersed by hundreds of the very finest Crocuses which one could find anywhere, mostly purple, light mauve striped, pure white, and a few yellow. These were put in last autumn, and have certainly done splendidly in spite of smuts and smoke. The only grievous thing about them is that when the flowers are over the bulbs will have to be pulled up and thrown away, as we have found that one season is quite enough for them, they would not flower again if left in for another year. Last spring we found that, beyond bulbs, any sort of outdoor gardening was hopeless in a spot so completely shut in by high buildings on every side, so that, until the sun rises high enough to overtop these, not a ray reaches the small garden. We therefore

determined last spring that we would build a greenhouse and try what could be done under glass.

We started with a house 20 feet by 10 feet; but finding that this left a useless corner between it and the wall, we determined to have that too glazed in, and found it gave a good deal of extra room, with the great advantage of being able to convert one corner of it into a much-needed potting shed. We started last May with a good collection of Ferns, and found these were the most satisfactory, from the fact that they could be syringed and do not need too much sun. The greenhouse is heated by hot water pipes from a saddle-back boiler in the scullery, which is made at the same time to do the double duty of supplying heat to a small frame in the garden, and, by the means of large radiators, to the house. We have already tried many and various kinds of plants, and it is only fair to think that many more might have thriven if we had only properly understood their treatment and culture; but, as keen amateurs, we have much to learn, and we scan eagerly the pages of *THE GARDEN* for any useful hints when it comes every week. Geraniums have, so far, been a failure. Cyclamen do very well, also Palms and Ferns of all kinds. Azaleas do very well the first year; but we have not sufficient sun to ripen the wood for another blooming. Tulips and Hyacinths and all kinds of bulbs have been very successful, while the photograph shows, at the back of the rockery, some old Lily of the Valley plants which have been very fine. We have now some beautiful Clivias in full bloom.

The one tree of which the garden boasts is, unfortunately, a Lime, which last year brought us hundreds of caterpillars, destroying many things we had planted in the garden. This we are thinking of changing for an Apple tree, but are doubtful as to the best kind to get. We should of course like a Cox's Orange Pippin, but have been advised that this would hardly do as well as a Blenheim Orange. Would any friend tell us of the kind most likely to flourish in the City?

Finally, I must not forget to mention the *Manettia bicolor*, a small plant of which was given me last summer, and this grew to the

roof of the greenhouse, and has flowered the whole winter through.

MRS. P. CLEMENTI-SMITH.

GARDENING OF THE WEEK.

FRUIT GARDEN.

EARLIEST VINES.

WHERE pot Vines are grown for earliest supplies the bunches will now be nearly fully grown, and at this stage the plants will need more food, for once the berries begin to colour this is not needed, and as the berries ripen atmospheric moisture must be reduced. At the same time a liberal temperature must be maintained, as with more ventilation undue lowering of the temperature is not advised. Avoid a check of any kind, for such would greatly affect the quality of the Grapes. Pot Vines being grown on for next year's supply should have liberal treatment in the way of careful ventilation and atmospheric moisture, feeding when the pots are full of roots, and not allowing the Vines to make long-jointed growths, as is at times the case if kept too hot. The fruits of the Vines started in December for the early supply to follow the pot Vines will now be swelling freely, and it may be necessary to go over the bunches, giving a final thinning; with shallow borders there is a greater demand upon the roots, and more attention must be paid to moisture and stimulants. To assist the roots I would advise mulching with short manure. This will also assist the foliage and prevent red spider, if there is any tendency of the latter pest to appear, as is often the case with Vines hard forced and not far away from the hot-water pipes. The temperature for Vines at this stage should be from 65° to 70° in mild weather at night and a rise of 10° by day. Close early in the day, allowing the thermometer to run up freely; damp the paths, borders, and bare places in the house. As soon as the berries begin to turn colour reduce the moisture gradually and ventilate more freely, but avoid cold draughts; indeed, a warm circulation of air will do much to give the colour and finish desired.

SUCCESSION HOUSES.

These in many gardens are most important, and here the best Grapes can be grown, as with hard forcing such good results cannot be expected. Vines started early in February will now be at the

flowering stage, and will need more care for a short time until the berries are growing freely. Some kinds set badly, such as the Muscats and one or two of the late kinds. Here it will be well to fertilise, and should any free setters, such as Black Hamburg, be in bloom it is an easy matter to transfer some of the pollen, using a camel's hair brush. Thinning should be commenced as soon as the berries are large enough to handle, as if this work is delayed with free setting varieties the work is done under greater difficulties. There should be no delay in reducing the bunches not needed; indeed, always reduce the free setting kinds before they come into flower that those left may strengthen. With old canes or those cropping freely now is a suitable time to give stimulants.

G. WYTHES.

Syon House Gardens, Brentford.

KITCHEN GARDEN.

AUTUMN-SOWN CAULIFLOWERS

should be planted out as soon as the weather is favourable; the cold wind and sharp frost recently experienced make one rather chary about subjecting such a valuable crop as this to the mercy of the weather, but the time has arrived when they must have attention, and protection may be given by placing Spruce or other evergreen branches round the plants at the time of planting out. If they are in pots and have been properly hardened off, little more protection than this will be necessary, especially if a sheltered border has been set aside for their cultivation. Snowball and other dwarf-growing varieties may be planted in rows 18 inches apart and 16 inches from plant to plant. Early London and Walcheren should be given 6 inches more each way; harden off spring-sown plants for planting out in May, and make another small sowing in the open border for succession. All

PEAS

requiring support should be earthed up and staked at once, and further sowings made as soon as the latest sown batch shows above the ground. It is a good plan to sow a few rows of some approved early variety when each sowing is made to come in a few days in advance of the general crop. Peas in pits should have abundance of air and never allowed to become dry. A few short sticks placed so as to keep the plants from the ground will assist the free passage of air amongst the foliage, and the plants will be less likely to suffer from mildew. Peas in pots should have frequent supplies of weak liquid manure to keep them growing freely while the fruits are developing.

ASPARAGUS.

The time is at hand when the planting of permanent beds of Asparagus should receive attention. The ground having been trenched and well manured, should, if heavy, receive a good dressing of road or river sand to keep it open, for nothing is more detrimental to the cultivation of good Asparagus than badly-drained soil, although large quantities of farmyard manure may be given with advantage. When the beds are set out for planting they may be 6 feet wide with an alley of 4 feet between each bed. If the line is set and small mounds placed at proper distances apart, the roots of the young plants may be spread over each mound and covered to the depth of 2 inches with fine soil from the alley, thus forming the beds several inches above the level of the former. The best time to plant is when the young shoots have made 2 inches of growth above the surface of the soil. Push forward the planting of late varieties of

POTATOES

when the ground is in a fit state, and give plenty of air to those in heated pits; afford water when necessary, but do not saturate the foliage when watering the soil. When the tubers in pots are large enough they should be kept cool and moderately dry until required for table;



CROCUSES IN A LONDON RECTORY GARDEN (CLOSE TO ST. PAUL'S CATHEDRAL).

later crops in cold frames should be earthed up and treated in the same way as advised for heated frames.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

INDOOR GARDEN

CARNATIONS.

THESE will now be growing rapidly and flowering abundantly, and every chance should be given so that the best results are attained by the removal of all surplus growths, because, if not required for stock, a great strain is unnecessarily put on the energies of the roots. Liberal feeding must be supplied, and in dull, cold weather sufficient heat must be maintained to keep the plants in a growing state. That new variety *C. americana* is at present in bloom here, and its bright flowers, produced on a stout stem, are the admiration of all. *C. John Peter Rugus* is another variety which ought to be grown extensively, as the free-flowering habit of the plant, combined with a good constitution, justifies me in making this suggestion. The *Malmaison*, too, will be pushing up its flowering stems, and will require daily attention. Cuttings rooted as advised in a former issue, if not already put into small pots, should be at once dealt with. A moderately freely sifted soil, composed of loam, leaf-soil, sand, and a sprinkling of horse manure, should be used, clean pots and a little broken charcoal provided; with a watering to settle the soil about the roots, and comfortable quarters for a time, there is no reason why they should not be ready for $\frac{1}{2}$ -inch pots in a month from now.

FUCHSIAS.

Similar remarks might here be advised as to the potting up of cuttings, and a soil slightly richer may conveniently be used, for no plants establish themselves so readily as this well known subject. Pot up seedlings of *Cockscombs*, &c., advised to be sown some time ago. Use a fine soil, carefully handling the tiny seedlings that they be not crippled in their present state; water in every case should be given when the seedling is put into fresh soil.

BOUVARDIAS.

These having been duly cut back are now once again sending forth numerous growths, indicating root action in full swing, and should it be decided to repot no time should be lost. The *Bouvardia*, however, is by no means a plant which likes frequent disturbing at the root, as once I flowered a batch which had not been disturbed for three years; they were such beautiful specimens that in the autumn I was prevailed upon to send them to several shows, where they were much admired. Liberal top-dressing is, in my opinion, preferable to repotting, unless, of course, when the soil becomes sour and a change is absolutely necessary. To maintain a healthy, useful patch, some cuttings should be put in annually, which, if well grown and carefully pinched, will in time make succession stock. A moderately light soil should be used in potting, and tight ramming should be avoided.

FERNS.

These having made a fair start into growth should have a general overhaul, and any decayed fronds removed, using a pair of vine scissors in the work, as thus no damage is done to the numerous crowns.

J. F. McLEOD.

Dover House Gardens, Rochampton.

THE FLOWER GARDEN.

WATER LILIES.

THESE will now be on the move, and no better time could be chosen for planting, provided the weather is genial. If they have been previously planted in tubs and are to be moved to a pond, the latter having previously been emptied of water, mounds of loam and cow manure mixed together should first be placed in position, the mounds varying according to the size of the plants, but being ample in all cases, as *Nymphæas* are gross rooting plants and pay for feeding. The plants should then be got in, laying the roots out fully and covering them with similar soil, on which may be laid a few flat stones here and there. The

crown of the mounds should be about 2 feet below the water surface when the pond is refilled, which should be done as quickly as possible. Where the pond cannot be emptied, good results may be had by planting in baskets—nurserymen's "flats"—which should be filled in with rich soil and sunk into position. If possible, choose a showery day for planting in an empty pond, and be quick about the transfer, as these Lilies do not like being dry while in leaf. Of course, with purchased tubers in the dry state the case is different, but these I should prefer first of all to establish in tubs before planting them in a pond.

BAMBOOS.

Bamboos are in the way of becoming popular, but, handsome as they are when doing well, they are not plants for every garden. In the humid climate of Cornwall and the West of Ireland they succeed almost anywhere with a tolerable amount of shelter, but in drier climates they not only want shelter, but provision for a bountiful supply of water throughout the summer, and especially for the six weeks or so in which they make most of their growth. Too much water cannot then be given them, and, without it, the tall, large-stemmed kinds become puny, without grace or beauty. A soil rich in humus is also desirable, and, if not naturally so composed, considerable quantities of decayed leaf-mould should be added. Planting may be carried out now. Most species may be divided and planted direct, but it is better to get large established pieces from pots, as these do not get a double check at the same time. When young canes show commence to water freely, and continue doing so until the maximum of growth is reached.

HERBACEOUS PLANTS.

These will be sufficiently advanced for the crowns to be thinned, an operation that should not be overlooked in old-established plants, for they mostly show far more growths than they can bring to perfection. The extent to which thinning may take place must be judged by the nature of the plant and its growth. No exact rule can be laid down for all, but it should be ample, and as a general rule the best and strongest growths will be found farthest from the centre of each clump.

CLIMBERS.

Climbers of early growth, such as most of the *Clematises*, should be looked over and the best young shoots tied into position and kept from intertwining with other growths, so that they may fill the best positions on the trellis or wall they are to cover. Protect young shoots coming from the base, so that slugs may not eat them, for these base growths are valuable.

JASMINUM NUDIFLORUM

should be pruned now, if pruning is needed. The young growth will then have time to grow and ripen for next winter's flowers. J. C. TALLACK.

Shipley Hall Gardens, Derby.

ORCHIDS.

THE season of the year has again arrived when repotting may commence in earnest. This is a very important operation, and should be performed with the greatest amount of care, the roots of the plants adhering to the receptacle in which they are grown, so that it is difficult to liberate and transfer to others without causing injury in some degree, hence the great care necessary. The kinds that need repotting at this season are numerous. Many of the warm intermediate and cool Orchids, such as *Cypripedium*, *Selenipedium*, *Angræcum*, *Phajus*, *Calanthes*, *Spathoglottis*, *Thunia*, *Cattleya*, *Oncidium*, *Anguloa*, and *Odontoglossum* will now require attention. Orchids should be disturbed at the root as little as possible, but should never be allowed to remain in sour material. The majority require to be repotted once in two or three years, or as soon as they may want more rooting space. The time to repot is better determined by the condition of the plants rather than by the season of the year. No plant should be repotted unless in the right stage, that is when growth is commencing and emitting new roots from

the base of the young growth. *Cypripediums* and such species that are never allowed to become very dry at the root should be repotted, so that the base of the plant is level, or a little below the rim of the pot. *Dendrobiums*, *Cattleyas*, *Oncidium*, and *Odontoglossums* should be raised a little above the rim of the pot. Peat and sphagnum moss form the most suitable compost for epiphytal Orchids, the terrestrial species being benefited by an addition of fibrous loam. All plants that have been repotted should have extra shading and be sparingly watered until the roots have penetrated the new compost.

SPATHOGLOTTIS

is a genus comprising a number of species, mostly stove terrestrial Orchids, natives of warm regions, and in consequence require a stove temperature. *Spathoglottis Aureo Vallardi* and *Spathoglottis kimbaliiana* are two handsome species requiring a warm humid atmosphere, a position well shaded from the direct rays of the sun, and plenty of water applied to the roots during the growing season. Both species are commencing to grow, and should therefore be repotted if requiring more rooting space. After repotting, the plants should be watered somewhat sparingly until new roots have penetrated the new material. Peat, sphagnum moss, and fibrous loam, in equal proportions, form a suitable compost for these species.

Thunias may now be repotted; *T. alba* and *T. marshalliana* are strong growing species requiring a greater amount of rooting space than *T. Bensonia*, the last-named species producing fewer roots. First remove the pseudo-bulbous stems from their pots, shake away all old material, cut back all decayed roots, leaving sufficient to support the stems somewhat when repotting, and procure clean pots half filled with clean crocks. Place over this a thin layer of sphagnum moss. Fix the plants firmly by means of stakes, so that the base of the young growth is level with the compost and a little below the rim of the pot. Peat, sphagnum moss, and fibrous loam, in equal proportions, form a suitable material, pressing the same moderately firm. Very little water is necessary until the roots have taken possession of the new material. They should then have an abundance of water and be freely syringed overhead. Place the plants in a light position in a stove or the warmest end of the *Cattleya* house.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill.

CHRYSANTHEMUMS.

THE weather during the greater part of March was anything but favourable for the growth of the *Chrysanthemum*. Consequently many plants, even where they have had the greatest attention bestowed on them, do not present that healthy and robust appearance which they should do at this season. Owing to cold biting north-easterly winds the lights had to be kept closed during the whole time, so that every inducement must now be afforded them to regain their usual vigour as speedily as possible, which with the more genial weather we may now reasonably expect they will soon do. Collections which are in a backward condition should be kept in cold frames till the end of the present month if possible, but abundance of air should be given the plants whenever the weather will allow. During heavy rains the lights should be placed over them and blocked up to prevent the soil becoming soddened. Spray the plants morning and evening on fine days with tepid water in bright sunny weather and again in the middle of the day; this will assist them materially and prevent flagging to any great extent. Some growers shade after repotting; I do not consider this necessary, but on the other hand harmful.

Preparations for removing the plants outside must be made in many cases owing to want of space under glass at this important season, providing they have sufficiently recovered from repotting and a suitable spot can be found no harm will accrue; in fact, they will be far better in such a position than crowded together in cold frames. The two dangers to be guarded against are frost and heavy rains. It matters not how well

the plants have been hardened, they are very susceptible to injury by frost, even a few degrees will injure them considerably, and, in fact, in my opinion none should ever be allowed to reach them at any season, even after they have been growing in the open during the summer. Choose if possible a sheltered position under a south wall and erect a temporary skeleton frame, fix a board to the depth of 18 inches at the back and 9 inches in front; a few neat upright posts should be placed about 9 feet apart, when rails and rafters can easily be added, and if these are placed sufficiently high to enable one to get underneath and examine the plants, all the better, roller blinds or mats can then easily be placed over them during the night. I have found the dressed canvas covers now so much used in gardens excellent for warding off heavy rains as well as a protection against frost; the rails and rafters should be fixed higher at the back than the front to enable the water to run off quickly.

The plants should be arranged neatly on boards or battens 3 inches in width, the latter being preferable, while the plants are in 6-inch pots, as they are neater and more economical, thus 9-inch boards ripped down make three. The more room within reason the plants are allowed the better, at least sufficient should be given them for each to stand quite clear of its neighbour and to afford facilities for examining them carefully, watering, &c. Eight rows in a bed should be the limit, leaving sufficient space to walk between, thus four rows can be examined each side, and any backward or sickly plants retained in the frame for a short time longer and nursed along carefully so that they can be placed with the bulk as soon as they are sufficiently strong.

See that each plant is made safe by tying, using broad pieces of bass, and allow sufficient room to swell. Watch minutely for green and black fly, and dust the points frequently with tobacco powder or the foliage will be disfigured later on.

Pompons and Pompon Anemones ought now to be sufficiently advanced for repotting into 6-inch pots. Precisely the same kind of treatment as to drainage and compost should be given to them as advised for the larger flowering section in a previous calendar. Pinch out the points to encourage a bushy growth.

EDWIN BECKETT.

Aldenham House Gardens, Elstree, Herts.

THE ROSE GARDEN.

ROSES FOR LOW TRELLISES.

SOME time ago I met with an instance of the many uses to which that popular Rose W. A. Richardson may be put, and it was as a trellis variety. It was only surrounding a small lawn, but the owner evidently took much pride in his few Roses, for they were as healthy as possible. This trellis, fashioned in semi-circular shape, was only about 4 feet high, and the Roses were covering it completely. Seeing the shade produced by this trellis, it occurred to me that we might do something in the same way to shield the borders in which climbing Roses are growing upon hot southern walls. Those who have such walls will know how trying the hot sun is to the plants. It may, of course, be partially remedied by timely mulching or hoeing, but if a row of dwarf Tea Roses upon low trellises will answer the same purpose, then obviously they would be of much value. This would not be possible upon very narrow borders, but given a border of some 2½ feet to 3 feet in width, then I would certainly advise its adoption.

All kinds would not be suitable. The best would be of the Marie Van Houtte and Anna Ollivier type as regards growth. There are plenty of this description, for instance, Mme. Lambard, Mme. Abel Chatenay, Viscountess Folkestone, Caroline Testout, &c., and these would provide one with quantities of cut bloom throughout the season. Plant 2½ feet to 3 feet apart, prune the first year to about 6 inches of the base, then spread out shoots as they grow, and they will soon

meet and form a low wall of fragrant blossom. Such Roses may always be kept down, say to 3 feet in height, by careful pruning.

Pot Roses that have become debilitated by frequent forcing may here be planted, and will, if the land be well done, soon develop into some fine bushes. They will show by their vigorous young wood springing up from the base that they appreciate the treatment. It will hardly pay to repot such as these again, but it could be done if desired, lifting them after they have been out two years.

DWARF POLYANTHA ROSES.

THE dwarf hybrid seedlings of *R. polyantha*, illustrated in THE GARDEN of March 30, constitute a most charming group. They are comparatively modern creations, the first introduction, as far as I am aware, being *Anne Marie de Montravel*, which appeared in the year 1872. Now there are some fifty varieties in cultivation. One of the most beautiful is *Perle d'Or*, the subject of the accompanying illustration. These Roses are well adapted for massing, their most remarkable feature being the immense panicles and corymbs of tiny

But rosarians do not favour the introduction of the large flowered section, for one obtains size at the expense of the fine trusses of bloom which the majority of the kinds yield. It is strange that all these dwarf Polyantha Roses are very perpetual flowering, seeing that *R. polyantha* is summer flowering only. But doubtless this is owing to the cross breeding with the tribes already alluded to. As to varieties they are already too numerous, but the kinds named below should find a place in every garden. One of the most decorative is

GLOIRE DES POLYANTHA,

its immense bunches of rosy pink flowers are produced abundantly and continuously.

PERLE DES ROUGES

is the richest crimson colour yet produced. It is very bright and pleasing, and will answer very well until we obtain one as brilliant in colour as *Crimson Rambler*.

ANNA MARIE DE MONTRAVEL,

already mentioned, is the best white. All who have seen the fine masses of it at Downside, Leatherhead, will need no further introduction to a very lovely Rose.



POLYANTHA ROSE PERLE D'OR.

double flowers. But it is not solely as bedding Roses that they are useful, for whether as single specimens, or as an edging to a bed or border of standards, they possess distinct individuality most pleasing to the eye. For conservatory decoration they are invaluable, their graceful growth and prolific blossoming making them the prettiest pot plants imaginable. Although they may be pruned down close to the ground and yet blossom freely, there is no doubt that they are best seen when very sparsely pruned.

Providing the centre of the bushes be well thinned, I would always advocate very slight pruning. They have the reputation of being diminutive Roses, and generally speaking they are so, if the blossom be only considered, but as far as growth is concerned, many of the kinds are almost as vigorous as the Tea and Chinese Rose, of which doubtless they in part owe their origin by hybridisation. Some varieties in fact approach the Teas very closely, for instance, *Mosella*. This is a delightful Rose, with flowers sometimes large enough for a show box, and *Clothilde Soupert* is another, its lovely imbricated blossoms, as perfect as an Aster, make it a favourite for pot culture.

CECILE BRUNNER

is one of the tiniest and most perfect little Roses in cultivation. Every blossom is as double as a show Rose, the colour being a very bright rose with flesh pink and yellow shading. Of novelties,

EUGENIE LAMESCH

is one of the most charming. Its buds are coppery red, open flowers ochre-yellow changing to clear yellow.

LEONIE LAMESCH

is also good, having flowers of red and yellow shading.

PETIT CONSTANT

is yet another with the coppery red colour suffused with salmon, but all these are quite distinct and most desirable novelties.

Should a severe winter occur the bushes would need earthing up in the same manner as the Teas, for although they will endure the rigours of an ordinary winter, it cannot be said that these Roses are absolutely hardy.

PHILOMEL.

OWN ROOT ROSES.

I THINK Mr. Mawley (see THE GARDEN, March 16) is quite right in what he writes on this subject.



LEMON PIPPIN APPLE TREE IN BLOOM.

However, there are other and more desirable merits in budded Roses, which he implies, but has not alluded to; I mean the distinct gain in strength which a tender scion gets by being budded on a robust stock. This is most apparent where French Roses and those raised in warm countries are budded on to stock, say the Briar growing wild in the country in which the Roses are afterwards required to grow. Surely any one can see that own root Roses would mean in a few years the loss of many of our best varieties. As it is, our Tea Roses are not what one would call a trustworthy class for the open border; the Hybrid Teas, however, are a distinct advance in the right direction.

Hollywood, County Down. WALTER SMYTH.

HARDY FRUITS IN SEASON.

I STATED in my last "Hardy Fruit Notes" that the number of varieties of good and well-flavoured Pears in season from Christmas to Easter has been practically exhausted; but it is not so in the case of the dessert Apple. Although I have already had the pleasure of recommending a matter of fourteen varieties, which are ripe and in season from Christmas to Easter, there are quite that number still left to choose from. Amongst them I will mention the following:—

Braddick's Nonpareil.—It is impossible to speak too highly of this as a late dessert Apple. It is of medium size, a russet colour, and has the flavour of Ribston Pippin. The tree succeeds well as a bush or pyramid, and is a certain and sure bearer, especially on the Quince stock.

Adam's Pearmain.—No Apple is better known than this, and no Apple is more indispensable, whether for its abundant cropping properties, its long keeping qualities, its handsome and distinct appearance, or its excellent flavour.

Brownlee's Russet.—This is a true Russet in appearance, and will remain in perfect condition for dessert or cooking until well into June.

Claygate Pearmain.—This is the Cox's Orange Pippin of May, and quite indispensable for dessert at this season.

Manchester Pippin.—A little known variety,

but worthy of more extended cultivation. It is of medium size, handsome orange colour, with distinct transverse streaks of red markings, the flesh is yellow, juicy, and sweet, and it will keep until Apples come again.

Hubbert's Pearmain.—A beautiful Apple, medium to small in size, an extraordinary heavy bearer of excellent quality and flavour, and will keep in good condition to June.

Roundway Magnum Bonum.—Some authorities have gone so far as to say that this old Apple is superior in flavour to Cox's Orange Pippin; but this, in my opinion, is an exaggeration not justified. It is, however, a variety well worth including in every collection, if only for its size, handsome appearance, fruitful nature, and sweet aromatic flavour.

Sturmer Pippin is certainly one of the most reliable cropping varieties we have. It is of good size, and if not of the very best appearance, it is one of the most useful late dessert Apples we possess.

Court Pendu Plat.—"The Wise Apple," so designated from the fact of its being the latest variety of all to open its blossom in spring, as though conscious of the serious damage wrought by late frosts to Apple blossom in the month of May, is a distinct and useful late Apple, either for cooking or dessert. It is not so constant a bearer as some, occasionally missing a season altogether; but it makes up for this eccentricity by bearing extra heavy crops the following year. I have mentioned Lemon Pippin before, but would again draw attention to it as one of the best winter and spring dessert Apples.

Windsor.

OWEN THOMAS.

A NOTE UPON INSECTICIDES.

As the spring season is at hand a note upon insecticides will prove useful to readers of THE GARDEN. It is impossible here ever to enumerate all the different kinds of insecticides that have from time to time been invented. Many of them are, however, worthless, but the following are among those which have proved most useful and are most frequently employed.

PARAFFIN OIL is one of the most destructive agents to insect life, the great drawback to it being that it is so injurious to the foliage unless care be

taken that it is not applied without being properly diluted. If merely mixed with water it is almost impossible to prevent the oil separating from the water and floating on the top. By properly mixing it first with soft soap so as to form an emulsion this difficulty is overcome. Paraffin emulsion may be made by dissolving two parts of soft soap in four parts of boiling water. While the mixture is still boiling hot (but not on the fire) add one part of paraffin oil, and at once work the mixture through a syringe for five or ten minutes, when they should be properly mixed. The addition of a little naphthalin (about a tenth of the amount of soft soap) renders the admixture of the soap and oil more permanent. To every pint of this emulsion add ten pints of water before using it. This mixture is sold under the name of "Paranaph." "Antipest" is another insecticide containing paraffin oil and soft soap.

QUASSIA AND SOFT SOAP WASH.—To make this soak half a pound of quassia chips for three hours in half a gallon of water, then boil it for several hours, strain out the chips, and add five ounces of soft soap and sufficient water to make five gallons of mixture. If it is to be used for red spider add half a pound of flowers of sulphur.

TOBACCO WATER.—Boil a quarter of a pound of tobacco in half a gallon of water for half an hour, strain off the liquor and dilute until it is the colour of tolerably strong tea. Soft soap may be added at the rate of two pounds to every three gallons.

PARIS GREEN.—This is a most valuable remedy in the case of insects that bite their food, as it poisons the latter. Half an ounce should be used with every six gallons of water, and two parts of lime should be added for every part (bulk for bulk) of the Paris green, which should be bought in the form of a paste, as it does not then blow about when handled. Blundell's paste is much recommended. Paris green is very poisonous, so that fruit when nearly ripe should not be touched with it. As it is very heavy it will sink to the bottom of the vessel that contains it unless it is kept constantly stirred.

CAUSTIC ALKALI WASH.—This is made by placing one pound of ground caustic soda in one gallon of water, add three-quarters of a pound of pearl ash, stir until all is dissolved, and add ten gallons of water, lastly add ten ounces of soft soap which has been dissolved in a little boiling water; when thoroughly mixed it is ready for use. This mixture, owing to the caustic soda, will burn the clothes or skin if allowed to remain on them, so that care must be taken in using it; choose a still day for its application. It is best applied with one of the



APPLE ADAM'S PEARMAN. (Two-thirds natural size.)

spraying machines or with a syringe with a spray nozzle. This is an admirable wash for trees, but it must only be used in the winter. In making up insecticides soft water should if possible be used, and they should be applied by means of one of the various spraying machines or syringes that are now so common, as they distribute the insecticide more evenly and thoroughly over the plant than an ordinary syringe and not nearly so much is used, the nozzles are so arranged that the undersides of the leaves can be wetted quite as easily as the upper. Of course there are also such valuable preparations as the XL All and Nicotinic which are used in so many gardens. Indeed, XL All is a preparation which is or should be in every good garden. S.

MESSRS. R. B. LAIRD'S EXHIBIT.

ONE of the best exhibits ever made by an Edinburgh firm at the annual spring show of the Royal Caledonian Horticultural Society was the one arranged by Messrs. R. B. Laird and Sons, Limited, on April 4. It consisted of a series of groups of flowering and foliage plants most artistically arranged. The one to the south was a harmonious blending of various shades of blue and yellow, furnished respectively by Hyacinths, Lilacs, Wistarias, and Cytisus in variety, and numerous Acacias. Another semi-attached group, with a splendid Palm as a centre plant, was composed largely of dwarf Guelder Roses, with many Hippeastrums. Very effective, too, was a circular arrangement consisting chiefly of *Prunus sinensis* fl.-pl. intermixed with the new Hybrid Tea Rose Liberty.

Magnolias, Japanese Acers, Rhododendrons, &c., were also made use of. *Magnolia Lennei*, *M. amabilis*, and *M. speciosa* were the most conspicuous species of these spring flowering trees. For this exhibit, which, under the electric light, and looking from the gallery, particularly appealed to the observer, the only gold medal given on this occasion was awarded to the firm of Messrs. Laird and Sons.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

PROPOSED NEW GARDEN OF THE ROYAL HORTICULTURAL SOCIETY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The notice given in your current number calling a special general meeting of the Fellows of the Royal Horticultural Society for April 23, to consider, and, if approved, adopt the proposal of the council to purchase land on behalf of the society for the purpose of its new gardens, brings the fellows face to face with one of the most important issues in the history of the society, upon which, with your permission, I should like to offer a few comments. In the first place, it will be seen that whereas in the annual report, the adoption of which was proposed by the president on February 13, 1900, the council recommended the purchase of a site (Limpfield), as the most suitable means of celebrating the centenary of the society, in the present notice no reference is made to the centenary, the council merely proposing to purchase 48 acres of land at South Darenth "for the purpose of its new gardens." It is most important, therefore, to

ascertain whether the council still consider the formation of new gardens to be the best means of celebrating the centenary, and whether the Fellows are also of the same opinion. If the site now recommended by the council proves to be a suitable one for the formation of a garden, which shall in all respects be worthy of the society, and where gardening in all its branches can be carried out in the highest possible degree of perfection, and if the council are assured that they already possess, or can raise, not only sufficient capital to furnish and equip such a garden suitably, but to maintain it at the annual cost which would be necessary, no doubt at least treble that which Chiswick now costs (about £1,400 per annum), there may be no special reason why the scheme should not be carried out, if the Fellows generally consider this to be the best means of celebrating the centenary. But whatever the feeling of the council and Fellows may have been fourteen months ago, there can be little doubt that only a small minority of the Fellows now consider the formation of such a

300 Fellows, with the very definite impetus to horticulture of every description, which the opening of a suitable horticultural building in London would afford. It is quite true that Fellows living at great distances from the metropolis are not often able to attend the exhibitions, but this objection applies with far greater force to a garden some twenty miles to the south of London. In proportion as facilities are given for exhibiting such high-class products of horticulture as are seen at the Drill Hall, so would the horticulture of Great Britain be distinctly promoted and advanced.

(2) Because the more the idea of celebrating the centenary by the formation of a new garden is considered and carefully examined, the more evident has it become that only an extremely small proportion of the Fellows generally would benefit in any degree whatever by such a garden, apart from the interest which might attach to reports of experiments published in the *Journal*. Such reports would, of course, possess a certain value, but this would depend entirely upon the experimental work



MESSRS. R. B. LAIRD'S BEAUTIFUL GROUP AT THE RECENT EDINBURGH SPRING SHOW.

garden to be the best means of commemorating the centenary of the society. My reasons for so thinking are:—

(1) We have constantly been reminded that the society was formed with the distinct object and purpose of "promoting horticulture," and the Fellows have to decide whether a garden in the south of England, over twenty miles from London, however well appointed and managed, is the best means at their disposal for promoting the horticulture of Great Britain. It is true that with an ideal garden, where the best methods of forcing fruit, flowers, and vegetables of all kinds are carried out, in addition to outdoor operations, a certain number of students might be trained to become efficient gardeners; but it is at least open to question whether such a training would be superior or even equal to that which the same class of students can already obtain in the first-class private establishments of the country. It is important, moreover, to know whether the gardens, if once formed, would be utilised principally by those aspiring to become *bona fide* gardeners, or whether they would principally form a training-ground for the comparatively few men who are required to assist the neighbouring county councils in providing courses of lectures during the winter months. In the case of the Limpfield site, there was certainly an idea that the gardens might be quite as valuable to the county councils as to the Fellows of the society itself. However this may be, we have to compare the possible influence upon horticulture which such a garden might have, visited as it would be annually by scarcely one in

attempted and carried out in the new garden. From the work done at Chiswick during the last twenty years, we must not, however, be too sanguine as to the result of similar operations elsewhere. It is not unreasonable to ask that in proposing the best means of celebrating the centenary the council should make it perfectly clear that the interests of the greatest possible number of Fellows will be considered.

(3) Because during the last fourteen months the Fellows have had further opportunities of carefully considering the financial aspect of the question, and very many—I believe a great majority—are not prepared to sanction so great an annual expenditure as would be necessary to maintain in a state of proper efficiency any gardens worthy of our national horticultural society, without evidence that the society has the means at its disposal. It may quite reasonably be supposed that the annual cost would be £4,000, or at least three times that of Chiswick.

Whatever scheme is ultimately decided upon as the best for celebrating the centenary of the Royal Horticultural Society, a large sum of money must be raised, and therefore it would obviously be desirable that the scheme be one which will commend itself to the greatest possible number of Fellows, and I venture to think that the establishment of a permanent home for the society, with a suitable hall for exhibition purposes, committee rooms for the various committees, whose work is so important to the society, and which is at present carried out with so many discomforts; and also a lecture hall for the fortnightly lectures, and in which the Lindley Library might be housed, is one

which would have the hearty sympathy of an immense majority of the Fellows. The sum of money now annually spent on Chiswick would be more than sufficient to pay the interest on any loan that might be required for the acquisition of the necessary site and cost of building.

ARTHUR W. SUTTON.

P.S.—Since writing the above letter I have, by the courtesy of Mr. Wilks, had an opportunity of visiting and examining the proposed site near Farningham Road, in company with Mr. Wright, the superintendent of the Chiswick Gardens. There is no doubt that, so far as the soil is concerned and the approach to the site, it is decidedly preferable to that at Limpsfield. Water and manure, too, are easily obtainable. This is, however, almost all that can be said in its favour. The best trains take an hour to cover the twenty miles from London, after which there is a walk of about half an hour, and very little, if any, opportunity of getting such refreshments as Fellows who spend a day or half a day in the gardens would need. The site is a very open one, and as there are no trees upon it there is, of course, no shelter, except on the south-west side; neither do buildings of any kind at present exist there. At the same time, as the soil is undoubtedly good, there would be no insuperable difficulty in forming the garden if a great majority of the Fellows wished to celebrate the centenary in such a manner and at such a distance from London. It seems strange that it should not be possible to obtain 15 to 20 acres in the Feltham neighbourhood or other districts where market gardeners, seedsmen, and nurserymen have already found the soil and situation suitable for horticultural operations. The cost per acre would undoubtedly be greater, but then a much smaller area than 48 acres would suffice for all the necessary purposes of a garden.

A. W. S.

Buckebury Place, Woolthampton, Berks.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have been much interested, as I am sure many other well wishers of the above society have been, in the steps which are now being taken to purchase what, certainly from what I can gather, is likely to prove a most suitable piece of land. It is as near London as one can reasonably expect, and within reasonable distance also of the station, and the acreage ample for all the requirements of experimental work. I trust that all Fellows will make an effort to attend and support the council on Tuesday next in the steps they have taken to acquire the same. It must be patent to all practical men that the time has arrived when a new garden is desirable, and, though much might be done of course to renovate and improve the old one, the confined area and the atmospheric conditions remain the same, and it is certainly not fair either to the council of the Royal Horticultural Society, the superintendent, or to those sending new fruits, flowers, or vegetables for trial, as it is utterly impossible to test them fairly. To spend a large amount of capital on the existing property, which must be the case if the Chiswick garden is retained on what is not freehold property, is to my mind absurd.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

MALMAISON CARNATIONS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was interested in Mr. Dean's note in your last issue respecting these popular flowers. Mr. Dean mentions Princess May as being a winter-flowering variety, and there is no question about this being so. It is one of the freest-flowering Carnations I am acquainted with. As a matter of fact, it is never without flowers or buds, and it certainly would be an ideal flower if it had a little more scent, but this it lacks. To me this is a great loss. I think one of the chief charms of a Carnation is a strong clove scent. There is a tendency on the part of the raisers of new varieties to strive after size, and, generally speaking, this is at the expense of scent and sometimes vigour. I am, however, pleased to observe that in some of Mr. M. Smith's new ones the scent is still pre-

served, for instance, Mrs. Torrens. This is a beautiful flower in every way—good colour, not too large, does not burst its calyx, and deliciously sweet scented. I also notice that that monster new one, Mrs. Martin Smith, has a decided tendency to flower during the winter. It has a wonderfully robust constitution. Another beautiful kind is Baldwin. This is a perfect flower of a most pleasing colour. We have to thank Mr. Smith for a great many beautiful Carnations, both border and tree kinds, and that gentleman has had the good judgment to strive for a vigorous constitution, good form, and colour. To my mind a tree Carnation without plenty of vigour is a useless plant, merely something to worry the gardener.

T. A.
The Gardens, Cirencester House.

BOOKS.

Thompson's Gardeners' Assistant.—We have just received the third volume of this important publication, this new edition, as our readers know well, being edited by Mr. W. Watson, assistant curator in the Royal Gardens, Kew. The present volume deals with exotic plants and plants for bedding, whilst the plates comprise Chrysanthemums, Iris Garden at Kew, Lælia anceps, Cattleya Mossiæ, Palms and Cycads at Kew, and examples of spring bedding at Belvoir Castle. The coloured plates of Carnations, Dendrobium phalaenopsis, and Lapageria rosea and r. alba add greatly to the brightness of the book. We shall refer again to this work, which is progressing so satisfactorily towards completion.

Paris spring exhibition.—The Jardin des Tuileries will, as usual, be the site of the above exhibition, organised by the Société Nationale d'Horticulture de France, from May 29 to June 3 inclusive. Intending exhibitors should address the president of the society at 84 bis, Rue de Grenelle, before May 19.

Judging Carnations in America.—The American Carnation Society, according to *Le Jardin*, adopted, at the recent exhibition at Baltimore, the following scale of points:—Colour, twenty-five; size, twenty; calyx, five; stem, twenty; substance, ten; shape, fifteen; scent, five; total, one hundred.

The National Rose Society and wet weather.—For the following *Le Jardin* is also responsible: "Here is an innovation if we are not mistaken, and a very rational innovation, too. The National Rose Society of England has just assured itself against possible losses caused by wet weather during the great Rose exhibition to be held in the Temple Gardens in July next. It is agreed that a rain-gauge shall be placed in a suitable place, and if the gathered rain depasses a certain quantity the assurance company is to pay the amount stipulated."

Kidderminster Horticultural Society.—At the last meeting of the above society Mr. Herbert, manager of Messrs. Thompson and Co.'s Sparkhill Nurseries, Birmingham, gave a most interesting and practical paper on "Carnations," to which we hope again to refer more fully. We learn that the intended excursion of this society is to the garden of the Rev. G. F. Eyre, Far Forest Vicarage, Bewdley.

Swanley Horticultural College.—The annual report of this institution states that the number of students has steadily increased, and now amounts to eighty-three. "Twenty-two students who completed their studies during the year are now, with suitable remuneration, gaining practical experience to fit them for the management of large establishments." Five lady students have been appointed as head gardeners during the past year.

National Chrysanthemum Society.—The great autumn competition and fête will be held on Tuesday, Wednesday, and

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Thursday, November 5, 6, and 7. The annual outing and picnic will take place early in July, when, by the kind permission of Alfred Tate, Esq., a visit will be paid to the gardens and grounds of Downside, Leatherhead.

Sale of natural history books.—At the sale on Monday last, by Mr. J. C. Stevens, at his rooms, 38, King Street, Covent Garden, of the library of natural history books formed by the late Mr. Philip Crowley, the following prices were obtained, many of them being record ones: "Transactions of the Entomological Society," complete set from the commencement to 1899, 46 vols., half calf, and 4 parts, £38; "The Birds of the British Islands," by Lord Lilford, 7 vols. and index, half morocco, 1885-97, £63; "Biologia Centrali Americana; or, Contributions to the Knowledge of the Fauna and Flora of Central America," 35 vols., half morocco, cloth, and parts, £90; Grandidier (A.), "Historie Physique, Naturelle et Politique de Madagascar," coloured plates, 1875-95, £35 14s.; "The Birds of Asia," by John Gould, in 7 vols., half morocco, 1850-1883, £51; "The Birds of New Guinea, Papuan Islands, and Australia," by J. Gould, 5 vols., half morocco, 1875-78, £45; "The Birds of Great Britain," by John Gould, 5 vols., half morocco, 1863, £49 7s.; "The Genera of Birds," by G. R. Gray, half morocco, 3 vols., 1849, £17 17s.; "Catalogue of the Birds in the British Museum," vols. 1 to 27, cloth, 1874-95, £48; "The Ibis," 1859 to 1900, with indexes, 42 vols., half morocco, and 8 parts unbound, £75; "Proceedings of the Zoological Society," coloured plates, 1830 to 1900, with 4 indexes, 60 vols., half morocco, and 7 unbound parts, £60; Sixty-six plates of great auk's eggs, with lists, £13 4s.; "Birds of Europe," by H. E. Dresser, vols. 1-8, 1871-1881, vol. 9 supplement, half morocco, 1895-96, £56; "Monograph of the Pheasants," by D. G. Elliot, 2 vols., half morocco, 1872, £53 11s.; "The Mammals of Australia," by John Gould, 3 vols., morocco extra, £29 8s.

Nurserymen, Market Gardeners', and General Hailstorm Insurance Corporation, Limited.—At the meeting of the above society, held at 41 and 42, King Street, Covent Garden, W.C., on Friday, April 12, it was stated in the report then presented that during the past year thirteen claims had been made upon the corporation for damage by hailstorms. After referring to the individual cases, the report goes on to say: "The result of the numerous hailstorms throughout the country has been that many new insurers have been added during the year in various parts of the United Kingdom, several new agencies have been opened, and the directors are pleased to be able to again draw attention to the fact that not only has the premium income been increased by over 7 per cent., but that the income from investments has also largely augmented during the past year. A special advantage offered by this corporation, and of which increasing numbers of insurers are availing themselves, is that those insured can replace immediately their own glass broken by hail, the corporation paying them at the rate per square foot at which the glass is insured. They can also cover wholly or partially the value of the contents of their glass houses by increased insurance of their glass. The balance of profit for the year is £1,899 4s. 11d., which, added to the balance brought forward from the previous year, leaves £2,166 12s. 3d. available for disposal.

Flowers in Battersea Park.—In the well-known sub-tropical portion of this park a charming bit of gardening in the unkempt grass under the trees is afforded by the Daffodils. Scillas, too, make very effective patches of blue. Near to the Albert Bridge entrance are some sunken beds, which will soon give a good display of Hyacinths, Daffodils, &c. A want in Battersea Park seems to be that of labels. Parks of this character are now so much visited by the public that they should become educators to visitors, who often may be struck with plants and flowers there seen which they may themselves easily cultivate, but are ignorant of their names. Kew furnishes a good example to follow in this important matter.—Quo.

THE GARDEN.

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[APRIL 27, 1901.]

THE ROYAL HORTICULTURAL SOCIETY AND ITS CENTENARY.

WE give in its proper place a more exhaustive description of the meeting of the Royal Horticultural Society, on Tuesday last, to consider the question of its centenary by acquiring a new garden for furthering horticulture in this land, and handing on to future generations the best traditions of a great institution.

From this report it will be seen that the position of affairs is quixotic. Nothing has been accomplished, for the simple reason that, although the meeting decided in favour of a hall, the charter of the society, we believe, makes its erection from its funds impossible; but upon that point, of course, legal opinion will be sought to prevent future disagreement.

As we expressed last week, a hall and a garden would fittingly celebrate an anniversary which all the horticulturists of the world, practical and scientific, keenly anticipate, and we fervently hope that all future meetings will be free from an objectionable hostility, unfortunately in evidence on Tuesday, born of an unwarrantable distrust of the action of a council composed of English gentlemen, and the thanks of that meeting are due to the chairman for preserving so impartial an attitude under trying circumstances.

We hold no brief for one side or the other, but, as we mentioned in our leading article last week, we have not only the welfare of the society at heart, but of horticulture itself, and if both hall and new garden can be acquired, then this twofold manifestation of a nation's interest in the State-neglected but increasing important horticultural industry will give a right royal send-off to the venerable society upon the second century of its existence.

More than one speaker denied, what the chairman explicitly declared, that the council received a mandate from the society to seek for other sites than Limsfield as the proposed new garden—why, it is impossible to understand. The proposals at the last meeting, passed almost without dissension, are sufficient vindication of the position of the council, who have tried to their utmost to fulfil the wishes of the several meetings which have been naturally taken as a guide to their endeavours to secure a suitable site.

All this disinterested work has been, for the time, thrown to the winds, and the Imperial

policy of widening the influence of the society by establishing a sound and trustworthy garden for experimental horticulture, and as a school for young men wishing to follow an important calling, checked undoubtedly, perhaps severely, but not finally. We have sufficient belief in the splendid individuality of the society, as we have before expressed ourselves, to know that no cramped and stunted growth will receive the sanction of future generations.

We were pleased with the real interest taken in this question by everyone at the meeting on Tuesday. Mr. H. J. Veitch, Mr. Arthur Sutton, Mr. H. J. Elwes, Mr. C. E. Shea, the Rev. G. Engleheart, Dr. Masters, Mr. Sherwood, and many others were present, while written communications were sent by Sir Michael Foster, Sir William Thiselton-Dyer, to mention a few only of eminent men of science who were unavoidably absent; and this is a healthy sign of the enthusiasm shown in the society and its work. When a society is enabled to bring together so strong a force, then is it upon a sure foundation, enjoying a vigorous life, and carefully steered, increasing in importance and strength with the accession of new members and a sound horticultural policy.

Mr. H. J. Veitch, in supporting the proposal for acquiring the site at Farningham, went into details, which are published in a separate pamphlet, and the seconder was Mr. C. E. Shea. Mr. Arthur Sutton then proposed an amendment to the effect that while thanking the council for its efforts to secure a site for a new garden, that not being the best way to celebrate its centenary, suggested a horticultural hall as a more fitting record of the event. This amendment was carried by a large majority, so that both hall and garden are visions of a very distant future.

Why not a hall as a means of celebrating the centenary? The Drill Hall many declare has become impossible. It is dark, dirty, small, and badly placed, but we must give credit to Sir Trevor Lawrence for his strenuous endeavours to find a permanent home for the society. After considerable labour, and with the assistance of Mr. Leopold de Rothschild, a keen gardener and supporter of the society, the only site that could be obtained, a site of any value for exhibitions and meetings, was saddled with a ground rent of £2,300 a year.

The meeting, however, decided in favour of a hall, against taking a poll of Fellows unable to be present at the various meetings, and £3,000

were subscribed in the room, £1,000 each from Mr. Elwes, Mr. Sutton, and Mr. Sherwood. Such an outburst of financial assistance we expect from men who have horticulture so deeply at heart, but firstly the necessary legal powers are needful, for the simple reason that Sir Trevor Lawrence declares that the charter will not permit the funds of the society to be devoted to a building of this description, and we are safe in declaring that (including site) £50,000 will not raise up a suitable structure in a central position in London to meet the wishes of some of the members at the meeting.

It is quite true that many of the new Fellows are led to joining the society through the fortnightly meetings, but they are quite as interested in the *Journal*, excellently edited by the secretary, the Rev. W. Wilks, which has for all time contained records of the practical work of the society, a work which, if allowed to cease, will sound the death knell of a superb organisation, saved from destruction by the councils of the past few years, supported by the present president and secretary.

The society is in the position of having recovered its pristine vigour, and likely to lose it through embarking in an elaborate hall, an unpleasant reminder of the deserted and unfinished erections at South Kensington. We want in the shape of a hall a building somewhat larger than the present one, quite central, and with sufficient accommodation for the Lindley Library, though it is quite comfortable in its present home. If a site could be obtained in one of the London parks, which is out of the question, all would be well; but the enormous cost of a central place in the metropolis would involve the society into difficulties far greater than any garden, especially when a wise choice is made of land of increasing value.

We have received many letters for and against the hall, but are unable to publish them through pressure on our space. Some of them have come from country Fellows who seldom travel to town to see the shows, save that in the Temple Gardens, and are in favour of the expanding policy of obtaining new gardens, evidence that if a poll had been taken the council would have received greater support than thought possible from the meeting on Tuesday.

Nothing has been accomplished, and nothing will be, we hope, of any nature likely to involve the society into supporting a big and elaborate hall, which we believe is the wish of the majority of the Fellows present at the

meeting, and, in very truth, a "white elephant" of enormous appetite.

The society requires no assistance from Kew, and we say this with all possible admiration for the work of Sir William Thiselton-Dyer and his assistants. No one is more conscious of the Directors' splendid work than ourselves, who profit by and enjoy a beautiful garden with the greatest botanical accessories in the world, but we believe in the Royal Horticultural Society pursuing its own policy of practical horticulture, performed in a garden of its own creation. We mention this as Sir William Thiselton-Dyer's name was freely mentioned at the meeting as opposed to the new garden.

We have written what we believe to be the proper line for the society to follow, and no one would be more distressed than ourselves if what we have written be not taken in the spirit of friendly criticism. We admire those who oppose the new garden for their honest convictions, and feel certain that, under the skilful generalship of Sir Trevor Lawrence, the famous old institution will suffer nothing in prestige or influence in what should be a splendid future.

RIVIERA NOTES.

LAST week there was held a very successful flower show in Nice during the *fêtes* for the President's visit. As a whole it was greatly superior to any I ever saw before either in Nice or Cannes; excelling our English shows in the disposition of the exhibits and the elegance of some of the details, while quite childishly feeble in some things, notably the display of Azaleas and Rhododendrons in pots. The entrance pavilion was loftier, better lighted, and more spacious for visitors than any I ever saw in England, and what was most charming were the wreaths of dainty Tropæolums, of the Jarratti and Tricolor sections, trained up the pillars for fully 7 feet. So exquisite were the wreaths of blue Tropæolum that I noticed many a visitor marvelling how these beautiful Neapolitan Violets had been tied on to sprays of green, never dreaming for a moment they could be real or that there was a Nasturtium so nearly like a double blue Violet.

The chief interest of the show was, however, the Tree Carnations. Being a flower of commerce they were very largely shown. French folk judge by such a different standard to ours that it is difficult to enter into their views. Many were so disgracefully ragged in shape, muddled in colour, and so split at the calyx that an English grower would throw them on the rubbish heap rather than exhibit them, yet there is a real and marked advance in Tree Carnations shown here, the most remarkable, perhaps, being one huge and brilliant flower named M. Almondo, shown by a Villefranche grower. But the real point of interest was a lot of 200 seedlings shown in flower, so true to race, colour, and general style that one may say that now the way to grow winter Carnations is to raise them from seed, and by so doing you gain healthy plants, fine flowers true to type, and superior in every way to propagated plants. For years past a leading English nurseryman has sold seed and seedlings which have produced so few rogues that named seedlings are being superseded, and the French nurserymen have achieved the same thing for the winter-blooming or Tree Carnations. No doubt the difficulty is to get hold of this pedigree seed which is so true to type, and so good, but we can all begin by saving seed from our best tree varieties, and I feel sure those who have once raised a good crop of seedling plants and found them true to type, like many other plants now specialised, will never revert to the slower and much more laborious method of annual cuttings.

There were some very fine seedling hybrid Anthuriums, shading from the deepest blood-crimson to pure whites, which are so rare, and the foliage plants were decidedly good. Clivias were very effective and brilliant in colour, but in shape and size inferior to English ones. Orchids were but poorly represented, the types being generally so inferior, even when well grown, as were the Phalenopsis, whose vigour was most remarkable. Cyclamen and Cineraria were practically identical with what one saw three years ago in the North, but I was amused to see the surprise and admiration lavished on a good group of cut Daffodils—such as Emperor, Empress, and Barri conspicuus—that fairly astonished the native gardeners, who had never seen these excellent and well-known varieties before. Forced Roses were very poor; it is too late for them, and the Tree Peonies were hardly advanced enough this late season to be shown, but the Grapes shown from Thomery were marvels of preservation; I have never seen any that could be compared to them before—they might have been freshly cut from the Vines.—E. H. WOODALL.

THE FLOWER GARDEN.

DAFFODIL ALLEN'S BEAUTY.

FOR a really wild Daffodil to be approved by the Narcissus Committee is always satisfactory, and Allen's Beauty is a really wild form. It is in fact *Narcissus nobilis* of De Candolle, figured in Redouté's "Liliacæ," tab. 158. My friend Mr. Peter Barr would never allow that *N. nobilis* as figured in Redouté was a form prevalent in the Pyrenees, because he had not seen a flower from the Pyrenees which exactly matched Redouté's in all its details, but as I often pointed out to him the best Pyrenean forms were quite near enough, for no wild Daffodil which prevails over a considerable area is absolutely constant. The yellow trumpet Daffodil of the Pyrenees may be divided into three.

(1) *N. nobilis* of De Candolle.—The finest bed of this I came across when I visited the Pyrenees in 1886 was in the valley of Bious Artigues, a few miles above Eaux Chaudes, near Gabas, about 5,000 feet high, and the place from which the steep ascent of the Pic du Midi d'Ossau is made. The same Daffodil occurred in abundance by the Route Thermal across the Col-de-Torte, between Eaux Bonnes and Argelès. I found it very fine also on the Pic de Bareilles in the same district. It is a fine handsome Daffodil, varying within certain fixed limits. (2) *N. muticus* (Gay).—*N. abscessus* (Haworth) is the prevailing yellow Daffodil of the high parts of the Pyrenees. It is the "clipt-trunk" Daffodil of Parkinson, and in some parts attains a large size, with very broad round-tipped leaves. It bears strong internal evidence of being the wild form from which *N. bicolor* of Haworth, and later *N. emperor* and *N. empress* were garden developments. (3) Where 1 and 2 overlap their area, a very ugly and unattractive race of crosses is found in great variety. Parkinson describes them and gives them the name of *variiformis*. I found these crosses in great abundance on the Pic d'Entecade near Luchon, at an elevation between the region *N. nobilis* and *N. muticus*. Mr. Barr made large importations from that region, and did not recognise the distinction between *N. nobilis* and *N. variiformis*. A year or two after I visited the Pyrenees, Mr. Allen, of Shepton Mallet, went there and made some careful selections from *N. muticus* and *N. nobilis*. He sent me specimens of *N. muticus*, which for size and form I could hardly distinguish from John Nelson. He also sent me a bulb of the best form he had picked out of *N. nobilis*, which he called Beauty, and I have had the increase of this bulb in my garden ever since. I have, growing in grass, not only many of this, but many which I selected myself in the Pyrenees, and which are of the same class (*nobilis*) but which do not quite come up to Beauty.

I may add that about the same year in which I was there, Mr. George Maw visited the Pyrenees and brought home many selected bulbs of Daffodils. He was convinced that what I have described as No. 1 was identical with var. *nobilis* of De Candolle, and distributed many bulbs, to me amongst others, under that name.

The year after I was in the Pyrenees I happened to meet Mr. Allen in Mr. Barr's Daffodil grounds at Tooting. There was a large breadth of *variiformis* from the Pyrenees flowering for the first time. Most of them were worthless, as we all agreed, but one was very good, and Mr. Allen and I bought it for 5s. and agreed to share it. I was to keep the bulb and share the increase. This flower came very near indeed to what was afterwards called Beauty. I kept the two apart for a long time, but believe they are now mixed in the grass, where they do very well, and are amongst the earliest of trumpet Daffodils to flower. C. W. D.

THE SNOWDROP DISEASE (SCLEROTINIA GALANTHI).

IN view of the necessity of dealing with this disease as soon as it is discovered, it may be well, after your paragraph in THE GARDEN of March 30, to give a brief description, in non-technical language, of its appearance on the plants. It is usually observable in an early stage by the plants coming up dwarfed and yellowish in colour. After a short time a grey mould, almost the colour of mortar, appears just at the level of the soil, and this gradually extends up the stem, the plant finally rotting off below the surface of the soil. It is desirable that every affected plant should be destroyed, not by putting on the rubbish heap, but by burning. There is no hope of the recovery of the Snowdrop, and this precaution is necessary if we are to avoid risk of its spreading. As an additional precaution I have dusted the soil about the plants with freshly slaked lime, but Velthea is much more effectual. The disease is more prevalent in some years than others, and, whether owing to care taken to destroy affected plants or to seasonal causes, I have not had a Snowdrop attacked this year. I have found it in plants which were practically wild in a wood, so that one cannot attribute it to cultivation. I think, however, that a close, moist position in the drip of trees is favourable to its appearance, and that an airy position is more likely to prevent its ravages. Newly imported Snowdrops have no more resistive power than those which have been in the garden for years, but, like most pests, it seems to have a preference for attacking one's best plants. G. Ikarie was almost annihilated within a couple of years of its introduction to my garden. I do not think, however, that this is the cause of the losses which occur among plants of *Galanthus plicatus*, notorious for going off without apparent reason. I have rarely observed signs of *Sclerotinia galanthi* upon clumps and individual plants which have disappeared during the subsequent resting period.

Carsethorn, by Dumfries, N.B. S. ARNOTT.

A GROUP OF HARDY PERENNIAL CLIMBERS.

THERE is no more pleasing object for the eye than arches, stakes, fences, or verandahs covered with the luxuriant growth of climbing plants and studded with clumps or masses of richly coloured blossoms. All of us know the brilliant effect which is produced by the different varieties of Roses, Clematis, Jasmine, and Honeysuckle grown thus, but there are many other hardy climbers, annual and perennial, which produce equally brilliant effects, but which are only very occasionally seen. The few plants mentioned below are all perennials, of easy culture, may be raised readily from seed, give a wonderful profusion of gorgeous blooms, and are not at all expensive.

Ecuremocarpos scaber, or Chilian Glory Flower, grows very rapidly. It has rich orange-scarlet blossoms, and requires a south wall. In moist, warm localities, as the south and west of Ireland and south-west of England, it continues green

throughout the winter, and will even keep in flower if the season be mild.

Bignonia radicans, or Ash-leaved Scarlet Trumpet Flower, and *Bignonia grandiflora*, for south and south-west walls or trellises.

Tropæolum speciosum, bright scarlet, thrives in cool, moist situations, and requires no sun. In the south of England it must be grown on a north wall and the roots kept fairly moist.

Plumbago capensis must be raised under glass, and planted out, not before May, in a warm and sheltered situation. It bears an immense number of lovely pale blue flowers.

Aristolochia Sipho, known as the Dutchman's Pipe, requires a north aspect, is a very rapid climber (10 feet), with magnificent foliage, and has small blooms somewhat like those of the Pitcher Plant.

All these may be sown during April in light, rich soil, preferably in a cold frame, and planted out in favourable weather when about 3 inches high.

PERCY LONGHURST.

EDITORS' TABLE.

At this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flowers so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they may be addressed either to Miss Jekyll, Munstead

Narceissi. They are red-eyed and are perfumed. Two varieties were represented, *N. p. Orestes* and *N. p. Cressida*, the former, a large creamy white flower with an intense scarlet cup, and the latter with a rich canary-coloured perianth, silvery white at the edges, and the cup deep orange-scarlet.

HEPATICA TRILOBA ALBA PL.

M. A. M. C. van der Elst, of the Royal Tottenham Nurseries, Limited, Dedemsvaart, Netherlands, sends to us flowers of the above new *Hepatica*. They are exceedingly pretty, and when fully developed quite as large as the red and larger than the double blue. M. van der Elst informs us that it is a native of the Hartz mountains, where it was discovered some years ago. So far as he knows this *Hepatica* is only cultivated in the Royal Tottenham Nurseries.

A NEW HYBRID PRIMULA.

We have received from Mr. Hookings, Oldoun House Gardens, Tockington, Gloucester, blooms of a new *Primula* raised by him between *P. stellata* and *P. obconica*. The leaves sent are very similar to those of *P. stellata*, the flowers being white with a beautiful yellow eye. They are of medium size, but the specimens sent did not enable us to judge of the habit of the plant. If this has the branching and profuse flowering habit of *P. stellata* this new *Primula* should prove of value, for the flower itself is certainly a good one.

PRIMULA ALLIONII.

Messrs. Backhouse, of the York Nurseries, send a flowering plant of *Primula Allionii*, a little alpine gem. The plant's whole size is of a less diameter than 2 inches, and its height 1 inch, though each individual flower is more than 1 inch across. The colour is a bright mauve.

NARCISSUS TRIANDRUS CALATHINUS AND N. JUNCIFOLIUS.

We have received flowers of these pretty *Narceissi* from Messrs. Barr and Sons, of Long Ditton. They are as charming in colouring as in shape. We give an illustration of each of them.

EPIGÆA REPENS AND SHORTIA GALACIFOLIA.

Mr. Wilson sends from Witley blooms of two charming early-flowering plants, *Epigæa repens*, the Mayflower of New England, and the dainty *Shortia galacifolia*. They are delightful to put together; the warm white and faint tints of pink of the *Epigæa* being exactly repeated in the pretty fringe-edged bloom of the *Shortia*, whose ruddy stalk gives additional value. With them come some flowers of *Gentiana acaulis*, of colourings inclining to purple, many of them of very deep and rich shades, the produce of some seedlings of Mr. Wilson's own raising.

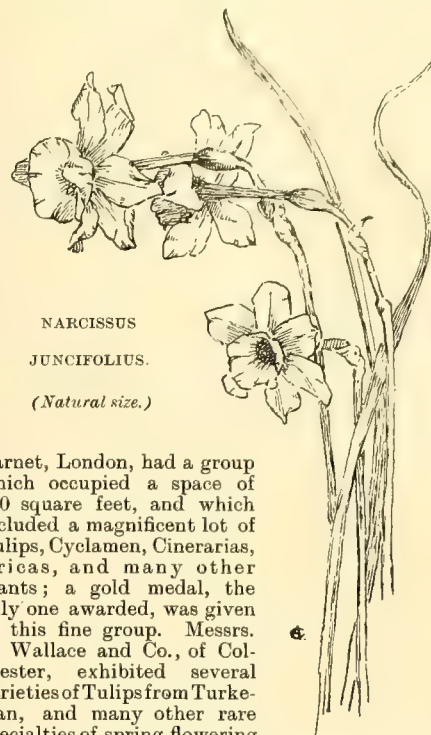
Mr. Wilson sends from his wood garden at Weybridge Heath some well-developed

CAMELLIA BLOOMS

with this note: "In the cottage wood garden we have a number of *Camellias* planted out; some have been in their places for many years and are loaded with buds. I send on the first three blooms of this season, though two of them were from young plants which have been out only one winter. When our large plants bloom I shall have the pleasure of sending some of their flowers."

NOTES OF THE WEEK.

Flowers at the Ipswich Spring Show.—Ipswich is to be congratulated on its first spring show of flowers. It took place on April 10, in the Corn Exchange, and we trust the committee and secretaries (Mr. A. E. Stubbs and Mr. W. Andrews) of the society generally will be placed in such a financial condition to enable them to hold a show annually. The honorary exhibits were numerous, many of which were of great excellence. Messrs. W. Cutbush, of Highgate, and



NARCISSUS

JUNCIFOLIUS.

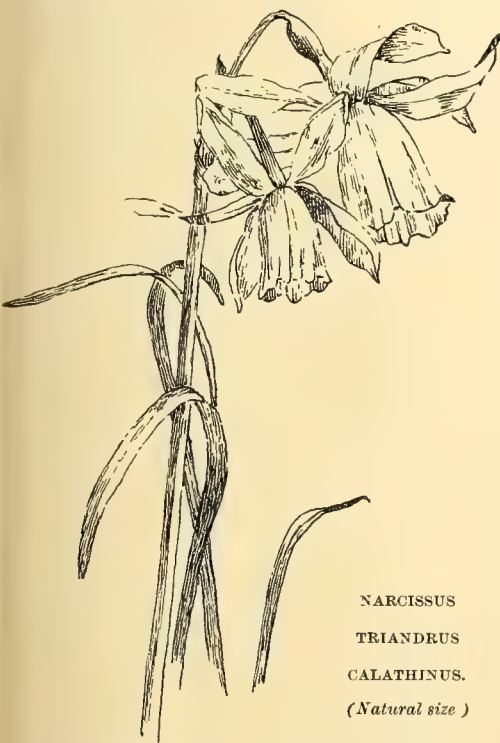
(Natural size.)

Barnet, London, had a group which occupied a space of 250 square feet, and which included a magnificent lot of Tulips, Cyclamen, Cinerarias, Ericas, and many other plants; a gold medal, the only one awarded, was given to this fine group. Messrs. R. Wallace and Co., of Colchester, exhibited several varieties of Tulips from Turkestan, and many other rare specialties of spring flowering plants, for which they were awarded a silver-gilt medal. Near to the entrance Mr. Leonard Brown, F.R.H.S., of Brentwood, Essex, staged a superb collection of Daffodils, which were awarded a silver-gilt medal. Daffodils and *Narceissi* were shown by Mr. R. Sydenham, of Tenby Street, Birmingham, grown in bowls of cocoa-fibre. Violets were well represented by Messrs. Isaac House and Son, Coombe Nurseries, Westbury-on-Trym, Bristol, in which all the best varieties were staged, and were greatly admired. Mr. H. Rogers, gardener to Lord Rendlesham, sent variegated Kale, splendidly coloured; also Yellow Arums and Violets. Floral decorations of Daffodils of any type, arranged on a table 6 feet by 4 feet, with any appropriate foliage, were very delicately set out, the first prize being won by Miss Steward of Ipswich. There were many other classes, and one for market gardeners. The first prize (a cup presented by the officers of the 1st Harwich and Suffolk V.A.) was won by Mr. C. Clover; other prizes being awarded to Mr. H. J. Southgate and Mr. W. Chenery.

Synthyris pinnatifida.—Those who might hope to find in the white-flowered *Synthyris pinnatifida* a good companion to the beautiful *S. reniformis* will be disappointed with it when they see it in bloom, as I was about two years ago. It is not nearly so pretty nor is it such a good grower, and I think that those of us who would like to have a white *Synthyris* to associate with *S. reniformis* will do well to wait and look for the introduction of the white variety of that charming flower which was spoken of some time ago by Mr. Carl Purdy in one of his interesting articles on flowers in the great west of America. It may be in cultivation here, but I have not heard of its being in any garden.—S. ARNOTT.

Daffodils at Long Ditton.—Those who wish to see the superb collection of *Narceissi* in flower in Messrs. Barr and Sons' nurseries at Long Ditton should visit these grounds as soon as possible. The flowers are now in full beauty.

Box edgings.—Although Box is not now so extensively planted in gardens as an edging to walks and beds as was once the case, yet there are many noted gardens in the country that can boast of having miles of it at the present day. Much has been said from time to time against Box as an edging to walks, &c., on account of its being a lurking place for slugs and other garden pests, and without a doubt there is truth in the assertion, but I contend that provided the edgings be kept within proper bounds by annual close clipping



NARCISSUS

TRIANDRUS

CALATHINUS.

(Natural size.)

Wood, Godalming, or to Mr. E. T. Cook, 20, Tavistock Street, Covent Garden, London.

FLOWERS FOR ILLUSTRATION.—We shall be pleased if readers will send any rare or good garden flowers worthy of illustration to Mr. H. G. Moon, Herbert Lodge, St. Albans. This will assist us greatly in maintaining an interesting series of flower sketches.

NEW POET'S NARCISSI.

Mr. W. Baylor Hartland, Cork, sends to us blooms of some of his beautiful New Poet's

this evil is reduced to a minimum. I have had some years' experience with closely-trimmed Box edges, and never have I known them to harbour slugs. Well kept Box edgings are a pleasing feature in the garden, always presenting a fresh green appearance. The annual clipping should take place from the middle of April to the first week in May, as no very sharp frosts are to be expected at that time. If then closely-cut over, new growth will soon be made, which is not likely to be injured by frost. Some do this work twice annually, viz., in autumn and early spring, but I find that when autumn clipping is practised the surface of the edges gets browned with frost.—H. T. MARTIN.

The herb border.—The herb border is as necessary to the garden as the garden is to the mansion, therefore it behoves the gardener to pay every attention to it. Early in the month of April is the most favourable time for the overhauling and general replanting of those herbs of a herbaceous nature and for sowing seeds of the annual or biennial kinds. Deep digging is necessary, and a goodly portion of manure should be dug into the soil as planting proceeds. By commencing at one end of the herb garden a clear course will be retained, and each kind should be divided and replanted as digging progresses. When completed, the remainder of the plot may be dug, and when sufficiently dry raked down; such seeds as Parsley, Basil, Borage, Chervil, &c., may then be sown in neat drills, a narrow path being retained between each kind. These annual herbs will require severe thinning as soon as large enough to handle in order to develop the plants, for one good plant standing clear of its neighbours will be worth more than a dozen crowded plants in the same space.—H. T. MARTIN, *Stoneleigh*.

Rosa macrophylla.—A fine plant of *Rosa macrophylla* has for some years been troubled with the Bedeguar Gall. In 1899 I cut the branches in the autumn all back to the stool, hoping that the new shoots would be free, but by the autumn of 1900 the new branches were nearly as unsightly as the old, and I now see the same or a similar gall on some Scotch Briars on the opposite side of the rockery. I should be grateful for a hint how to get rid of this pest. Nicholson's Dictionary says "cutting off leaves and branches as soon as the galls appear on them is quite a sufficient check."—A. C. B., *Reading*.

Arctotis aspera.—Two large plants of this handsome South African composite are flowering finely in the greenhouse at Kew. They are in 10-inch pots and staked after the manner of a bush Chrysanthemum, and are now upwards of 3 feet high and 1½ feet through, with numerous strong shoots. The foliage alone makes this plant attractive, the leaves being pinnatifid, 6 inches to 8 inches long, covered with a white silky tomentum. The heads of flowers are made up of ray and disc florets, are 3 inches to 4 inches across, Gazania-like in appearance, and rich orange-yellow in colour. When grown into a large bush and a dozen or so flower heads are expanded at once it is very handsome, and where a constant change of flowers is required for the conservatory or greenhouse it will be found very useful. Soil similar to that used for Chrysanthemums is suitable, and cool house treatment is all it requires.—W. D.

The National Chrysanthemum Society's exhibitions for 1901.—The annual report and schedule of prizes for the three exhibitions of the National Chrysanthemum Society are at last in the hands of its members. Advantage will be taken by a certain number of exhibitors to enter the new classes, but owing to the advanced period of the year, the ultimate result is sure to be less satisfactory than it would have been had the schedule of prizes been published earlier. Nevertheless, it is gratifying to find that the executive committee are keeping abreast of the times, and are discarding old and useless methods of exhibiting the Autumn Queen in favour of newer and more interesting ways. The practical aspect of this question is receiving more attention, and in this connection it may be noted that special classes are now provided for illustrating the use to which large exhibition blooms can be put, as well as

others for the encouragement of the culture of outdoor sorts. In the November exhibition, which this year is fixed for November 5, 6, and 7, changes are also notified. The decoration of the fountain was so great a success last season that it is to be repeated, but on improved lines. Points are given for quality of Chrysanthemum blooms, for quality of foliaged plants, and also for attractive arrangement. The collection must include examples of not less than four distinct sections of Chrysanthemums, and they may be exhibited either as plants or cut blooms. This alteration should have the effect of bringing into the display some of the smaller and pretty little Pompon flowers which last season were more or less ignored. Four prizes—£15, £10, £8, and £6 respectively—should induce growers to enter into friendly rivalry. The great vase class for Japanese blooms is again retained, the society providing the prizes in this instance. The classes which in former years were confined to six blooms each of Japanese white, yellow, and any colour except white or yellow, are in future to be set up in vases provided by the exhibitor. These were set up on boards formerly, and the new departure should be welcomed. The hairy petalled blooms have also to be arranged in a vase. Mr. J. T. Simpson, who has previously given a guinea for the best Japanese bloom in the show, repeats this prize, and also in addition gives a guinea for the best incurved bloom in the show. In the place of the old class for twenty-four incurved blooms, distinct, a new class has been created. This is for six vases of incurved blooms, in six distinct varieties, five blooms in each vase. Three prizes, respectively £10, £6, and £4, should attract exhibitors. Twelve large-flowered Anemones and twelve large-flowered Japanese Anemones are in future to be arranged in vases. Two vases, each to contain six blooms, will be required in each class. The December schedule has been strengthened somewhat, an additional class for a vase of Pompons, arranged for decorative effect, being included. Readers of THE GARDEN will be ready to acknowledge that this society certainly justifies its existence, and that the executive committee are keenly alive to what is required of them.—H.

Clianthus puniceus.—There is no more beautiful climbing plant suitable for the roof of a sunny greenhouse than this, and the fortunate possessors of a large specimen are sure of a rich harvest of flowers every spring. It was introduced from New Zealand about seventy years ago, and appears to have been grown more largely then than now. Its semi-shrubby branches are well clothed with small pinnate leaves, and the flowers, which are scarlet, are freely produced in drooping racemes. The individual flowers are 2 inches long, and Pea-shaped. They commence to open in February, and the flowering season lasts until the end of May. Unlike its Australian cousin, *C. Dampieri*, it is of fairly easy culture, rooting readily from cuttings, and growing in fibrous peat or fibrous peat and loam. It will grow in pots, but can be depended on to flower better if planted out in a well-drained border. It will grow to a height of 15 feet or 20 feet, and spread out to cover a large space. Providing it has a sunny position it can be depended on to do well in a cool or warm greenhouse if plenty of air is given during summer and autumn.—W. D.

The proposed new Chiswick.—In company with a very few other Fellows of the Royal Horticultural Society I visited, on Thursday last, the site at Farningham, in Kent. The area of land amounts to slightly over 48 acres, and is comprised in one field, which has a gentle fall towards the south-west corner. There is practically no shelter, but this could be afforded by planting breaks. Three trial holes were made, and all showed a most promising land. The surface is loam, with an abundance of flints, then a very thin layer of gravel, with a subsoil of heavier loam. In one case a trace of chalk was observable. There can be little doubt that the land would prove very responsive to good cultivation, and it is very doubtful if a superior position, in this particular respect, could easily be found. Two disadvantages lie in the bad train service both to and from Farningham, also the absence of

a suitable place of refreshment. From enquiries made in the neighbourhood subsequent to the visit, the price of the land (£80 an acre) was deemed to be too high. This was ascertained from absolutely disinterested persons, and is probably reliable.—VISITOR.

Messrs. Carter's Cinerarias.—No less beautiful and interesting than Messrs. James Carter and Co.'s Primulas earlier in the season are the Cinerarias, now fully open in the Forest Hill nurseries of this firm. The house in which the best of them are to be seen is quite a blaze of colour from end to end, and the variety of tone and shade comprised in the flowers is remarkable. The individual blooms are on the whole large, and in form and delicacy of colouring leave nothing to be desired. Cinerarias, unlike Primulas, owing to their varied and innumerable shades of colour, are not named individually. We can therefore but describe a few of the most distinct flowers recently noted. That with a white centre, the edges of the petals being broadly margined with rich rose-purple, is always a favourite, and one of the best of colours; another splendid flower is a large deep purple, while the pure white is one that cannot fail to at once attract attention. Several are of a cerise shade, varying in depth of colour on different plants, but all very charming flowers. The true blues are conspicuous, the rich self usually finding the most favour, although the lighter blue with the white centres are hardly less beautiful. There is probably no tender florists' flower that provides such a wide range of colour as is comprised in the numerous varieties contained in a representative collection, and an examination of that of Messrs. Carter reveals a wealth of shades and tints innumerable and almost indescribable, from the pure white to the deep purple and crimson.

The London Parks superintendents' dinner.—Through the instrumentality of Mr. F. J. Coppin, Battersea, the superintendents of the several London parks met last year at a social dinner. So much good sprang from this that it was decided to make it an annual affair, and on Saturday nearly the whole of the superintendents, with several foremen, met under the presidency of Lieut.-Col. Saxby, chief officer of the Parks Department, who was supported by Lord Monkswell, chairman of the Parks Committee, and Mr. C. Jordan, superintendent of Regent's Park, which, as Crown property, is without the pale of the London County Council. There were a few visitors, including Mr. S. T. Wright, of Chiswick, and Mr. T. Bevan, of Finchley, two of the visitors venturing into the regions of criticism. Lieut.-Col. Saxby spoke admirably of the work of the department when responding to a toast that was given by Mr. F. W. Parker, of the headquarters' staff. Mr. Barnes, chief surveyor, proposed, and Lord Monkswell responded to, "The Parks Committee." It was a successful gathering, and, though still called an annual, I trust it may prove a hardy perennial.—H. J. W.

Tecophylæa cyanocrocus.—Perhaps one's experience may encourage others to grow this gem. It had been under glass here for many years, but we had never succeeded with it in the open garden. In the autumn of 1899, however, about a dozen bulbs were planted some 4 inches deep in a bed prepared for *Onocyclylus Irises*. The soil is good fibrous loam, depth 18 inches, below this 6 inches to 9 inches of broken bricks resting on a sloping concrete bottom. Of course the object of the slope is to prevent the possibility of water lodging. In the spring of 1900 we had some four blossoms and were well pleased, and there are now open or to open some twelve blossoms. The bulbs have had no protection whatever from the time they were planted in 1899. The border faces south and is only some 8 feet or 9 feet from a wall. It would be rash to assume that success is now assured, as the last two winters have been by no means severe, but, at all events, there is reasonable ground for hope that this beautiful bulbous plant can be induced to thrive and flower unprotected in the open ground in years which are not of exceptional severity. Seed is set abundantly, and there seems no difficulty in raising seedlings.—A. C. B., *Reading*.

Plants for edgings.—I noticed that "E." in the very good list of plants for edgings does not mention one that we find most useful here, *i.e.*, the variegated white Periwinkle. I have roughly paced out the borders and shrubberies that are edged with it, and find that it runs round 350 yards, sometimes under shrubs, even under Yews, under a Beech hedge, and either bordering shrubberies that come close on to gravel paths, or on to grass lawns it always looks well. At present it is a mass of neat short growths with pearly white flowers. Later on, when the flowers are over, it sends up its variegated foliage and forms a well-rounded compact edging all through the summer, autumn, and winter. Under heavily foliated trees, such as Cedars, we use the larger and freer-growing Vinca major, and in cool, damp corners a very lovely small double blue or almost mauve one, the name of which I do not know, but which has grown for many years in this old garden.—A. J. B., Kent. P.S.—I will send a few blooms of this last one later on for naming. It flowers much later than the others.

Clematises Marcel Moser and Nellie Moser.—There are excellent specimens of these comparatively new Clematises in Messrs. Veitch's Chelsea nursery. They are two varieties of great merit, through the excellent form and dimensions of their flowers, which are of a pale mauve ground, with the petals ornamented with a broad band more or less red in their centres. The free-flowering character of these perfectly hardy varieties is shown by these young plants grown in 6-inch pots, and bearing five or six of their lovely flowers, each of them measuring fully 8 inches in diameter.

Flowers in Kensington Gardens.—The flower-walk in this well-known fashionable resort is looking very gay at the present time. There are some good colonies of Daffodils, with effective splashes of Chionodoxa and Scilla sibirica. The Hyacinths and Tulips have not yet opened in the walk, but there is a splendid show near the late Queen's statue. A group of Almond trees in full bloom, under which are massed Tulips, Hyacinths, and Daffodils, with a carpet of mixed Crocuses, presents a splendid show. Behind the statue are some very fine bushes of that beautiful deciduous golden-flowered shrub, Forsythia suspensa. Ribes sanguineum is coming into bloom. Flowering Peaches are only waiting for a few more warm sunny days to bring them to perfection. An improvement which has been made by Mr. W. Brown, the capable superintendent, is worthy of reference. Hitherto there has been no rubbish yard for Kensington Gardens; the leaves, &c., had to be deposited behind a mound near the centre of the gardens, presenting an untidy appearance. The ground has been excavated for about 2 feet and mounded up, forming a large yard, and the banks have been recently planted with flowering trees and shrubs, such as Lilacs, Philadelphus, Broom, Laburnums, Pyrus, Thorns, Spiræas, Almonds, Andromedas, and Prunus pissardi. With these established and in flower this spot will in future present a gay aspect. On the north side of the gardens are some good groups of Daffodils. About Hyde Park there are several groups of the same flowering shrubs that have been mentioned in connection with Kensington Gardens. On Park Lane side of the park, and near Hyde Park Corner and Albert Gate, Daffodils delight us in good groups, whilst in St. James's Park, near the lake and the Horse Guards' Parade, the golden flower is also making a brave display.

Ravenscourt Park, Hammer-smith.—This is one of the prettiest and well-kept of the smaller parks under the control of the London County Council, and much in the way of improvement has been effected by Mr. Gingell, the superintendent. A portion of what was waste ground a few years ago, facing the main Hammer-smith Road, has been taken in and effectively dealt with. Near to the library Daffodils amongst Ivy, and flowering under a Cedar, produce a pleasing effect.—Quo.

Daffodils in Jadoo fibre and road scrapings.—On the occasion of the recent exhibition of Daffodils at Ipswich, Mr. Leonard

Brown, Seven Arches, Brentwood, who is a Daffodil specialist, exhibited a number of pots of bulbs of several varieties, which were grown in a compost made up of one-third Jadoo fibre and two-thirds of grit from gravelled roads, and the vigorous growth and fine development of the flowers fully justified this method of culture. What struck one was the rare substance both in the perianth and trumpet. Such varieties as Empress, Horsfieldi, Mrs. Walter T. Ware (early, very free, and excellent for market work), Emperor, Johnstone, Queen of Spain (a very distinct species of elegant character), Maximus (very fine in colour), and Princess Ida, all of the large trumpet section. Of the medium crowned section the following were particularly good:—Barri conspicuus and Queen Bess. Such a method of culture commends itself to those who find difficulty in obtaining a suitable compost, but it should be stated that the grit should be from a gravelled and not a granite road. A finer lot of blossoms from plants grown in pots I have very rarely seen.—R. D.

Freesia aurea.—Some blossoms of this species were exhibited at the Ipswich Daffodil Show by Messrs. Wallace and Co., Kilnfield Gardens, Colchester. The flowers appear to be rather smaller than in the case of Freiraia; they are of a pale yellow colour, with a few spots, but they lack the fragrance of the more commonly grown forms. It is an interesting plant and very rare.—R.

Pelargonium F. V. Raspail for beds.—One or two beds of the above make a brave show during the summer months, and the fine long-stemmed trusses produced under such conditions are often in request for vases, and they also make charming little nosegays associated with long pieces of the scented P. filicifolium. I tried several things with it in the beds to relieve the somewhat stiff appearance that is a characteristic of nearly all double flowers of rather dwarf habit when planted together in quantity, and have found nothing better than Gypsophila paniculata. Not many are required, about five in a bed, say, of 100 square feet. The effect is very pleasing when both are at their best, the bright scarlet flowers showing to great advantage beneath the fleecy cloud of Gypsophila. This latter comes readily from seed; if this is sown in the summer, and the seedlings are pricked out in a prepared border, nice plants will be available for transplanting under permanent quarters in early spring.—E. BURRELL.

Onychium japonicum.—Where a quantity of foliage to associate with cut flowers is required the above is one of the most valuable plants that can be grown; the fronds are light and graceful, and have the merit of keeping fresh and green for quite a fortnight if the water is changed and the base is occasionally nipped. I have also found it very useful in pots for outdoor work through the summer months for grouping with flowering plants. In large greenhouses and conservatories, where benches and staging are dispensed with in favour of winding paths and clumps of rockery, this Fern may be planted out to great advantage, and under such conditions shows its true form, the bright fresh fronds growing nearly 3 feet in length. Many charming combinations may be effected at different seasons of the year by groups of flowering plants mixed with it; just now, for instance, it looks well with Primula stellata in variety, Freesias, Cyclamens, &c. It is very easy of culture, whether in pots or planted out; a mixture of one part loam and two of leaf-soil, with a good dash of sand, suits it admirably.—E. BURRELL.

Manettia luteo-rubra.—Few plants flower with more persistency than this Rubiaceae climber, or adapt themselves more readily to such a number of methods of culture. It is usually seen trained on a trellis or balloon growing in a stove and treated more or less as a herbaceous plant; it can, however, be made to grow to a good size and cover large areas by allowing it to grow unchecked for several years. When allowed to grow in this manner it is never without flowers, and throughout winter the pretty scarlet, yellow-tipped blossoms are particularly welcome. Although often given the warmth of a stove, so

much heat is unnecessary, a warm greenhouse or intermediate house answering admirably. It is a Brazilian plant, and is probably better known by the name of M. bicolor, which, however, is but a synonym of the correct name. In addition to the methods of training mentioned, it looks very well if planted in a border and allowed to scramble over a triangle of rough posts.—W. D.

European Cyclamens.—Apart from the quantity of blossom produced by the corms when leafless, a mass of the glaucous tinted marble-like foliage of these plants is, at the present time, quite handsome. An ideal spot to plant this Cyclamen is on a bank sloping to the south, backed up with evergreen trees of the Thuja Lobbi type. The contrast is quite pleasing, while there is no doubt about the success of growth in the Cyclamen. Full exposure to the summer sun seems to ripen up the corms thoroughly, which give after this a wealth of blossom. A somewhat light compost, in which old mortar rubble figures freely over a subsoil of heavy retentive soil, seems to suit the growth of this plant.—E. M.

Galanthus Elwesi and G. plicatus.—How well these two early-flowering Snowdrops flourish on the rock garden and how fast they increase from seed. To me it is a wonder we do not see more of them in the position alluded to. Ten years since I planted six bulbs of each on a partially shaded rockery, with abundant root run, and now each clump is fully 3 feet across, a mass of healthy seedling plants, which annually blossom freely. Of course they have not been disturbed since planting, therefore it cannot be said that Snowdrops require a renewal of soil or of added manure. This is a trait about these hardy bulbs which is in their favour.—E. M.

ORCHIDS.

NOTES ON NEW ODONTOGLOSSUMS.

IN the collection of R. H. Measures, Esq., of Streatham, some of the most remarkable Odontoglossums yet introduced are now flowering. The genus is particularly rich in natural hybrids, more so perhaps than any other division of the Orchid family, but only lately, comparatively speaking, has any success attended the raising of artificial ones. Probably they will never be as plentiful as Dendrobium, Cypripedium, Cattleya, and Lælia crosses, the initial difficulties in their growth being too many, but results already obtained fully illustrate the advantage of perseverance.

Six Odontoglossums at The Woodlands are especially remarkable, and of these three are natural and three artificial hybrids. First is a harryanum cross, the crispum parent used having been the splendid variety sanderianum, comparable with O. c. Franz Mazreel, O. c. veitchianum, &c., in its faultless shape and bold, deeply coloured blotches. Such forms can seldom be used in hybridising, but there can be no question as to their superiority, as evidenced in the present hybrid by the large, well-opened flowers and their intensely coloured markings. The sepals and petals are splashed with red-purple on an ochreous ground. The upper sepal has a large red-purple blur, outlined with ochre, encircling an ochreous patch, with a red-purple mark in the centre. The lip is finely dotted with the same tint above, clear yellow below. All the colours show through on the under side. This variety is immensely superior to previously flowered harryanum and crispum crosses.

Odontoglossum excellens var. *Princess May* is a natural hybrid between O. triumphans and O. Pescatorei. Princess May is the finest form yet seen, unless that in Baron Schröder's famous collection be preferred. The yellow tint obtained from triumphans is very strong and clear, fading prettily to white at the bases of the petals which are spotted with cinnamon-brown. The sepals, all yellow, have three or four irregular blotches of

cinnamon, and the yellow lip has similar blotches on the disc, arranged in crescent form.

Odontoglossum Harvengtense var. *Leopoldi* is, like the preceding, a natural hybrid from Colombia, the type being a hybrid between triumphans and crispum. The variety *Leopoldi* takes more strongly after the first parent, thus differing from *Odontoglossum Loochristiense*, the artificial cross from the same parents. The rather harsh colouring of triumphans is softened and smoothed, the deep yellow becomes gold, the bars and splashes a tender red-brown; crispum shows itself in the soft white bars traversing the petals, in the crispation of the sepals and petals, and in the shape and size of the labellum, the edges of which are daintily feathered.

A hybrid between *Kegeljani* (polyxanthum) and *cirrhosum* next claims attention. Both the parents are natives of Ecuador, but a natural cross between them has not yet been found. Should it ever be, judging by the plant at The Woodlands, a first-class novelty may be anticipated. The plant seen by the writer is now flowering for the first time. Being small its best characters have yet to be developed, but sufficient can be seen to show its value. Except on the lip there is not a trace of yellow in the flower, nor of the "fly-away" appearance of *cirrhosum*; sepals and petals invert at the tips, however. The colour is white, strikingly barred and spotted with dark red; lip yellow above, red in the long neck, white at the tip. At present the spike is unbranched, but as the plant gains strength so undoubtedly will the plumose branching panicle of the *cirrhosum* parent show more of its influence.

Odontoglossum Adriance R. H. Measures is a natural hybrid between *O. crispum* and *O. hunnewellianum*, the latter a pretty round flowered species, first discovered and introduced by Messrs. Sander and Co., who named it in compliment to Mr. Hunnewell, a noted American horticulturist. The hybrid is variable but always pretty, the rich brown and yellow colouring of *hunnewellianum* being broken and distributed, while greater dimensions are obtained by *crispum*. The variety R. H. Measures is one of the most beautiful forms yet noticed. The large flowers, round and compact in outline, have a ground of pleasing cream white colour, with handsome dark—almost black—red spots boldly defined, standing separately on the petals, but aggregated centrally on the sepals. The lip is distinctly shaded with soft yellow, spotted with the rich, dark tint of red, and is

noticeable for the exquisitely denticulated margins. Certainly one of if not the finest of *Adrianas*.

Odontoglossum Loochristiense var. *zebrinum* has been obtained from *O. crispum* crossed with triumphans. Several forms of the hybrid are known already, but none so intensely coloured as this variety. Naturally, there is a certain resemblance to the natural hybrid *Harvengtense*, chiefly in the shape, but the varietal name *zebrinum* is aptly applied, the deep chocolate markings from triumphans being ranged transversely across the sepals and petals, and, strangely enough, so darkened that the effect would be bizarre were it not for the rich golden ground colour. One of the finest and quite distinct from all others.

RHODODENDRON CAMPANULATUM.

It is a great gain to gardens that some of the beautiful Indian species of *Rhododendrons* prove hardy in the more favoured parts of our islands, and the benefit is seen to be still greater when we think how early in the season these fine shrubs come into flower. The accompanying illustration is from a photograph taken last April from a spray cut at a height of 14 feet from the ground in the gardens of Tayfield, Newport, Fife, from whence it was sent by Mr. Berry. The flower is white tinged with lilac, handsomely spotted on the upper divisions. The leaves are dark green with strongly waved edges, and are backed with a thick coat of rusty meal.

THE ROSE GARDEN.

SOME OF THE NEWER CLIMBING AND HYBRID TEAS.

POSSIBLY the two most valuable additions to the very vigorous or climbing section are the following:

CLIMBING KAISERIN AUGUSTA VICTORIA and climbing Belle Siebrecht (syn. Mrs. W. J. Grant). The first-named will, I imagine, become one of our established varieties in the same way as climbing *Devoniensis* or climbing *Niphetos*. If one can give it a warm and rather

dry situation it will flourish outdoors to perfection, and certainly for lofty conservatories, a well-established specimen, covered with its noble blossoms, must be an effective object.

It is a remarkable fact that climbing sports of certain Roses will originate almost simultaneously in widely different localities. It appears that the Dingee and Conard Company, of West Grove, Pa., U.S.A., purchased the original plant of a climbing sport of Kaiserin Augusta Victoria from another American grower, and they gave it the name of Mrs. Robert Peary, and as far as I can gather this Rose is identical with that which originated in Ireland.

It would be interesting to learn from some one qualified to give an opinion what it is that produces this remarkable phenomenon.

CLIMBING BELLE SIEBRECHT

must also become a great favourite. All growers of the original dwarf type know only too well that there is a want of robustness about it although it is such a magnificent Rose, but in this climbing form there appears no lack of vigour and the shoots do not die back partly, a characteristic of the dwarf form. In blossom there is no difference, unless it be that those of the climber are a shade larger, and one can well imagine what a fine picture a pillar of this superb Rose would make.

BILLIARD AND BARRE

has been referred to in these columns on more than one occasion, and I endorse all that has been said in its favour. In richness of colour and beautiful bud it leaves nothing to be desired.

DR. ROUGES

has a flower of good colour. Individually the flowers are not much, but when grouped together the reddish orange colour is almost as attractive as *L'Idéal*.

MME. JULES SIEGFRIED

is not yet much known. Its growth is vigorous and its flowers are freely produced. The flowers are of a creamy white colour, with a beautiful globular form, reminding one very vividly of that lovely decorative Rose *Enchantress*.

FANNY STOLWERCK

is very fine. The colour is a peculiar mixture of old gold, salmon, and peach, and the flowers are of good size, if rather irregular.

There are not many white climbing Tea Roses. Of course we have the fragrant and lovely Mme. Alfred Carrière that grows so luxuriantly on pergolas and the like, but not many others. I do not count climbing *Niphetos*, as it is more fitted for indoor work, but in

VALENTINE ALTERMANN

we have a really pretty neat flower, not certainly so magnificent as climbing *Niphetos*, but yet very useful.

MARIE ROBERT

is classed with the Noisettes, for what reason I cannot tell, unless it be to make confusion. It appears to be as much a Tea Rose as those already included in the group. The flowers are bright rose, marbled with salmon-pink, and the growth is very vigorous and hardy.

E. VEYRAT HERMANOS

does not bloom profusely, but the flowers are very beautiful, both in colouring and form; in fact, I expect to see it in the show boxes, for its regular outline would make it a favourite with exhibitors. The raiser of the above, M. Bernaix, has given the Rose world yet another beauty in

SOUVENIR DE MME. VIENNOT.

It is quite a new colour, being jonquil yellow, shaded with china rose at the bases of the petals. All growers who care for the type of Rose represented by Mme. Marie Lavalée will welcome this new one.

ROSE FORTUNE'S YELLOW FAILING.

THE premature shedding of the foliage of this charming climber is not uncommon when the variety is grown outdoors. *Solfaterre* is another Noisette which sheds its leaves; but under glass I consider it should be preventible.



RHODODENDRON CAMPANULATUM.

It is just possible the trouble may arise in the case mentioned by your correspondent — Mr. Isherwood — through the roots ramifying into a cold, waterlogged subsoil. The evil is not apparent until great demands are put upon the roots, then the little rootlets succumb to their uncongenial surroundings. Give these Tea and Noisette Roses good drainage and plenty of heat when growing and they cannot well go wrong.

If my opinion be correct, and the border is never allowed to get dry, as your correspondent says, it is little wonder that the leaves drop off. Should, however, Mr. Isherwood feel assured that the trouble is not at the root, then I can only imagine it arises from insufficient heat. I would suggest that the house be started as late as possible, but when the Rose is on the move do not allow the night temperature to drop below 56°.

Perhaps Mr. Fyfe of Wantage Park, who grows and shows this Rose so successfully, would favour the readers of *THE GARDEN* with his experience of the variety. I believe he adopts the practice usual for climbing Roses under glass, and that is to cut the growths hard back after flowering in order to produce a sound, well-ripened young growth by the autumn to provide the next season's crop of blossom.

As Mr. Isherwood says his plant almost covers the roof of a large span-roof house, I gather that he does not prune it to any great extent after it has flowered. This in itself may be a contributory cause to the shedding of the foliage owing to the old age of the wood.

PHILOMEL.

ROSES IN THE WOODLAND.

THE planting of Roses should not stop at the garden boundary. Why not use some of the delightful Hybrid Sweet Briars and other single and semi-double Roses to border the paddock or in the woods? One of my earliest recollections of Roses is centred in some huge bushes of the native Briar flowering in rich profusion in an old stone quarry to which I was sent to gather Moss for use at our flower show. Whilst these Roses are to be found in almost every hedgerow, and in their simple beauty are perhaps not excelled, I think we might supplement them by mingling the fragrant and brilliant Sweet Briars which we owe to the late Lord Penzance's energetic labours in hybridising. I note in the "Rosarian's Year Book" for 1896 that Lord Penzance advises the removal of the flowers as they fade, which, he says, will induce the plants to yield a second display of blossom. Perhaps many may prefer to see the brilliant hips, but yet single Roses in autumn are none too plentiful. We need not stop at planting the Sweet Briars, for there is an abundance of material at hand. There are the charming Rugosas, which are being supplemented every year by splendid novelties, the flowers of which, in some cases, are of snowy white, others approaching in brilliance and size the Hybrid Perpetuals. The double forms do not seed so freely as the singles, and for that reason are not so serviceable for covert planting, seeing that the seeds are much appreciated by pheasants; but if they be planted to please the eye of the owner then would some of these newer kinds be admissible.

What fine groups, isolated in a sunny meadow and protected from cattle, could be formed from the shrub Roses, such as *Macrantha*, *Mendens*, *Blush*, *Hebe's Lip*, *Carmine Pillar*, *Sericea*, *Daron*, *Moschata nivea*, *Austrian copper* and *yellow*, *Scotch Roses*, and the like. One especially I would recommend for estate planting, and that is *R. Cinnamomea Blanda*. Its wood in winter is as showy as the Dogwood, and its pretty pink flowers



SNOWDROPS IN A COPSE.

in June are very attractive. When planting see to it that the work be well done, not just a spadeful of soil dug out and the plant stuck in the hole. Trench the ground, plant and spread out the roots very carefully, and, if possible, obtain the bushes on their own roots, then may one expect a real flourishing group, though in a semi-wild state.

PHILOMEL.

SNOWDROPS IN A COPSE.

THE earliest hardy flowers are welcome everywhere, and there is scarcely any place where the Snowdrop comes amiss, but perhaps it is best of all in copse ground and in turf among trees. In such places, if the soil is loamy or chalky, it soon makes itself at home; tufts quickly increase in size, and new patches will appear self-sown.

INDOOR GARDEN.

COLD PLANT HOUSES IN WINTER AND SPRING.

NOT every one can well afford to maintain a heated glass house through the winter. Sometimes the fuel is the consideration, but more frequently the labour necessary in attending to the fire. I am aware slow combustion boilers are to be had that need but little attention, but many lovers of their gardens cannot afford to keep some one regularly and their business prevents personal attention. It is useless to have a heating appliance, fill the structure with tender plants, and then see them come to grief from want of care in attending to the fire. Many amateurs derive much enjoyment from the unheated house in the summer months, but as the cold days arrive lose their interest in it for a time, owing to the erroneous impression that nothing can be had to bloom unless there is artificial heat of some kind. This is a mistake.

It has occurred to me that a list of plants, bulbs, &c., that have proved satisfactory either to grow and take into a cold house or pit through the winter and early spring would be useful, since

these cold structures may be made ornamental and interesting throughout the year if suitable things are grown. Added to this many showy and useful bulbs, plants, and shrubs may be grown in this house and brought into the drawing or dining-rooms, and there will suffer less from draughts than things grown in heated houses. Houses that have been devoted to growing Cucumbers, Tomatoes, &c., through the summer could be cleared out in autumn and the following plants and bulbs brought into it. Nothing is necessary but glass protection, with the addition of a covering in very severe weather. If the house be exposed a few things would be better with their pots plunged to prevent the roots being frozen. This is easily accomplished by having boxes in which to stand the pots, and filling in either with cocoa-nut fibre refuse or moss. In this way they can be readily moved about, providing the boxes are not too large.

It must be understood that many of the subjects named can be kept for years, by planting them out in the open ground in early summer or growing them in pots, which should be plunged through the summer. The grower must be his own guide as to the number taken in hand. It is far better to grow a few kinds well than double the quantity badly. By making a selection from this list a great variety will be obtained both for pits, frames, and houses, their flowers appearing early in November and continuing well into the spring, when they may be removed outside in a sheltered spot.

In giving this list I do not mean to say it is perfect, but it would be most helpful to many would-be cultivators, and also to myself, if readers would add the names of any plants or bulbs they may have found useful, and notes upon their cultivation, as this interchange of experiences is most instructive to readers of *THE GARDEN*.

The following low-growing shrubs will flower satisfactorily, as above described: *Jasminum nudiflorum* or the yellow winter-flowering *Jasmine* (this can be had in pots if cut very hard back when the flowering season is over, and it will be covered in bloom the following autumn), *Laurustinus* (very fine pot plants are seen in London), *Skimmia japonica* (which has showy red berries), *Rhododendrons* (such as *Early Gem*, *nobleanum*, and other early kinds), *Rhodora canadensis*, *Staphylea colchica* (this is very sweet scented), *Azalea mollis*, *Andromeda floribunda*, *Daphne mezereum*

(Mezereon), and Bamboos of sorts. Small shrubs, as Golden Retinospora and Golden Junipers, the Red Ribes or flowering Currant, can all be obtained as small plants, either in pots or otherwise, at a small cost. Moutan or tree Peonies are most gorgeous, and pay for shelter. The hardy Palm *Chamærops Fortunei* is good, also the Mexican Orange flower (*Choisya ternata*), *Prunus sinensis* fl.-pl., *Arundo Donax variegata*, Lavender Cotton (a good white foliated plant for a dark corner), and Golden Euonymus.

Amongst dwarf-growing plants the following are good: *Diplacus glutinosus* (I have seen this growing for years in the open in Somersetshire), *Aralia japonica*, *Opohiopogon Jaburan variegatus* (which will bear 12° of frost in a cold house), *Abelia rupestris*, *Coronilla glauca*, *Deutzia gracilis*, and many other things of this kind.

Mention must be made of many border plants. *Iberis gibraltarica* and *I. garrethiana* are useful. The former is lovely when grown from cuttings. Violets in pots, *Cheiranthus Marshalli*, *C. alpina*, and double Wallflowers. East Lothian Stocks, sown in June, and potted in autumn; also the intermediate ones, *Omphalodes verna*, Christmas Roses, Wilson's blue Primroses, *Primula nivalis*, *P. obconica*, *P. rosea*, *P. purpurea*, *Saxifraga burseriana*, *S. cespitosa*, and *Physalis Franchetti* in pots. Add to this the many bulbs usually grown, with *Fritillarias*, *Chinodoxas*, *Scillas*, Dog-tooth Violets, *Dielytra spectabilis*, *Spireas*, hardy *Cyclamens*, *Doronicums*, mossy *Phloxes*, &c. In late autumn *Schizostylis coccinea*, and *Chrysanthemums* as those of the Julie Lagravere type. The former we had in splendid condition the third week in December in a cold frame. It will thus be seen that there is no lack of material for cold houses. J. CROOK.

BOOKS.

Report of Injurious Insects and common Farm Pests during the year 1900.*—It is with no little surprise and with much regret that one reads in the preface of this, the twenty-fourth annual report on "Injurious Farm Insects," by Miss Ormerod, that she "feels the time has come for discontinuing this series of annual reports." They have appeared with such wonderful regularity at this time of year for so long that it is difficult to realise that this is to be the last, but one cannot wonder that after compiling these reports for twenty-four years that there is a desire to relinquish the work which was no doubt hard; indeed, it is surprising that she should have been able to carry it on single-handed for so long. The authoress says: "The work was hard, but for many years, for about five or six months, all the time I could give to the subject was devoted to arranging the contributions of the season for the annual report of the year. As the consultation enquiries were kept up during winter as well as summer, I found the work carried on single-handed without the help of a staff at times very fatiguing. But so long as there seemed to be a call for it, I have tried to do what I could. Now, however, the necessities of the case have—as a matter of course—been gradually changing. Year after year information has been sent, gradually completing most of the histories of most of our worst insect pests, and now additional information is rarely—as is to be expected after twenty-four years observations—on points of great agricultural importance." This is undoubtedly true, but at the same time there remains plenty to be done in the way of finding out better ways by which many of our insect foes can be destroyed. The number of pests reported on is considerably less than in former years. Four, however, are reported on for the first time. Of these, two are not natives, but are found in Peas and Beans received from abroad; they belong to the genus *Bruchus*—Pea and Bean seed beetles—and were imported from Smyrna. Whether these insects are likely to become naturalised in

this country or not is a very difficult question, but we should think it was unlikely that they would, as they are natives of central and southern Europe, Syria, and northern Africa. Figures are given showing the differences between them, and the two species which are common in this country. These insects can be killed by dressing the Peas and Beans with certain mixtures before sowing them. This is, however, hardly worth while, as the crop from infested seed is certain to be an unsatisfactory one, so that it is best not to sow such seed, but to use it for feeding purposes. The so-called "Mottled Fruit Tree Tortrix Moth" (*Penthina variegana*) is now mentioned for the first time, but though it has been known as a pest for many years, Miss Ormerod has not had specimens sent to her before. This insect is very common, the caterpillars attack the leaves of fruit trees as soon as they begin to open, and they spin two or three together to form a shelter for themselves. If the attack be very severe the trees, of course, suffer very much. The fourth pest noticed for the first time is a fungus (*Exoascus pruni*), which attacks the fruit of Plum and Damson trees, causing them to swell and become distorted, in which condition the fruit is known as "Pocket or Bladder Plums." This is by no means an uncommon fungus, but one which, as far as we are aware, has not yet been recorded as causing any considerable damage to the crop, though the fruit that has been infested is perfectly useless. As a rule, only, however, a few Plums here and there on a tree are attacked; the diseased fruit should be gathered and burnt as soon as it is noticed, and it is well to cut back the shoot to the old wood, as the fungus lives also in the wood. The result of some experiments on destroying the Currant mite are given; two dozen plants were cut down to the ground, one dozen were steeped in methylated spirits and water for two hours—the solution was half spirits and half water. The others were not treated in any way, all were planted in a garden in which the Currant bushes were not infested by this mite. Those which had been steeped in the spirit and water, even at the end of the second year, were very sickly, and four out of the twelve had died, but only two galled buds were found; of the twelve that were merely cut down and then transplanted, one died, the others appeared quite healthy, but the lower parts of the shoots bore infested buds, so that the experiments were by no means a success. It would seem at present that the best thing to do in the case of infested bushes is to pick off and burn the swollen buds or destroy the entire bush. The caterpillars of the common "Gamma Moth" (*Plusia gamma*), appear to have been unusually abundant on the Yorkshire and Lincolnshire coasts, where they were causing much injury to the Mustard crop. They also severely injured the Potato crop at Holbeach, in Lincolnshire. This insect, like many others, is occasionally very abundant in certain localities and then is hardly noticed for perhaps several years.

The Pear leaf-blister mite (*Phytoptus pyri*), which sometimes is the cause of much injury to the foliage of Pear trees, and therefore indirectly to the quality of the crop, injures the leaves by burrowing between their skins, thus forming small blister-like galls on both sides of the leaf.

From experiments carried out at the Cornell University Agricultural Experiment Station, Ontario: "It appears that this mite can be nearly exterminated by one spraying of the Pear trees—at any time after the leaves have fallen off in the autumn, and before the buds have begun to swell in the spring—with kerosine emulsion diluted with not more than five to seven parts of water, the tree being sprayed from every side, taking care to hit every terminal bud, as this is where the mites are stated to congregate." It is also desirable, where it is possible to do so, to pick off as many of the infested leaves as can be reached in the course of the summer. Flat worms or land planarians, are again reported on, though the only species mentioned is *Bipalium kewense*, a tropical species introduced with plants, and found only in hot houses in this country. These worms feed on worms, woodlice, &c., and Miss Ormerod suggests that they might be useful in destroying earth

worms in this country, but it seems most improbable that they should be able to live in our climate. The Gooseberry and Currant Saw Fly, forms the subject of one of the short notices at the end of the report. The grubs appear to have been unusually abundant at Tarporley, Cheshire. Great attention appears to be given to "Economic entomology" at the Aldersey Grammar School in that neighbourhood, and the boys are encouraged to do what they can in the way of destroying insect pests. The head master reports that in three consecutive days the boys brought in no less than 14,837 of these grubs, showing what can be done by hand picking. It is impossible to close a notice of this report without expressing great regret that this very valuable series of reports should now terminate. One cannot but feel, however, that the authoress has well earned the rest which it is hoped she may for many years enjoy. When Miss Ormerod first began these reports, Economic Entomology was very little thought of in England, now it is studied at the various agricultural colleges, and experiments are being made as to the best means of destroying various insect pests all over the country. This very desirable change has been very largely brought about by Miss Ormerod's writings and the interest she has taken generally in this subject.

THE FRUIT GARDEN.

ESPALIER - TRAINED APPLE TREES.

HAD we such a national fruit garden or school, such as could have been furnished had the Royal Horticultural Society but elected to secure the splendid Limpsfield site, amongst other features that could have been established would be an acre or so set apart expressly for espalier-trained Apples. I have the highest opinion of trees of this description for fruit production, liking them, indeed, better than for Pears, but this fashion of culture is evidently much less in favour than it was in olden days. Still, wherever there are seen good espalier Apple trees in gardens, it is the rarest circumstance not to find them not only very productive, but carrying first-class fruits. Espalier trees vary in height, but that of about 5 feet seems to be the most general. I am not sure that placing them close to kitchen garden footpaths, thus largely enclosing the vegetable quarters, is the best position, as access to the inner quarters is often much interfered with. But that objection opens up the wider one of mixing up fruits and vegetables, as is so commonly seen. I greatly prefer seeing fruit cultivated in separate gardens or quarters, but there are many who like the mixture, because there is more variation furnished in the garden. However, were a quarter more or less in extent devoted to espalier Apples, the varieties should be of the best description, and especially be late keepers.

It is so very advantageous, in relation to late Apples, that on espaliers they may be netted over, and may be allowed to hang very long, until, indeed, the fruits were perfectly finished. It is such fruits that keep so well into the winter. Were such an area planted as advised, the lines should be fully 4 feet apart, and would probably be better if 5 feet apart. If the lines ran south and north, the trees would get the fullest exposure to sunshine and the fruits ripen better. Such an area could have, if needed, netting carried all over it on round rails, over which nets would run easily if fixed from 12 inches to 18 inches above the trees. Thus the fruit would be fully protected from birds, whilst artificial manure dressings might be annually pointed in over the roots. A good mulch of animal manure laid down in the spring would also give valuable assistance. The work of both summer and winter pruning—work of an essentially technical or skilled, yet pleasurable, kind—might be performed with great ease. As to supports, these are optional: stout galvanised wire strained from end to end, secured to stout iron-pipe posts let

*"Report of Injurious Insects and common Farm Pests during the year 1900." By Eleanor A. Ormerod, LL.D. (Simpkin Marshall and Co.).

into larger iron sockets, or to Oak posts set in concrete; or stout Ash stakes, the bottoms creosoted, then driven in 18 inches apart, having narrow strips or laths tacked to them, to which the growing points of the horizontal branches could be secured; a batten 3 inches wide fixed along over the tops of the stakes would help to preserve them for a long time. No doubt, if more costly, the wire trellis is much the most enduring—surprisingly enduring—and quickly-fixed supports are formed by sinking and fixing into the ground at each end of a row 2-feet lengths of 4-inch iron piping, dropping into the bottom of each, and gently ramming it down, 4 inches of cement concrete, then dropping in a 7 feet length of 3-inch iron pipe, and placing a packing of cement round the base of each and the top of the larger socket. So protected, such supports might endure for fifty years. An occasional coat of paint would help to preserve them. The tops should be stopped with a plug of wood and cemented over before the up-rights are fixed.

We owe the espalier method of training to the French, and it is recorded that the celebrated Sir William Temple planted a fine assortment of both Apples and Pears as espaliers in his garden at Sheen, near Richmond. These were collected on the Continent and brought over here. The rows ran in parallel order east and west, rather than north and south, yet were so successful that it is said the trees flourished and fruited uniformly for a period of eighty years before the orchard was destroyed, the ground being purchased for the Crown in 1772. Another instance recorded of successful espalier culture was that of Mr. Secretary Johnson at Twickenham, whose trees bore heavy crops of fruit. It is reported that an espalier was figured in the old *Gardeners' Magazine* in 1831 that was 99 feet from end to end, showing branches almost 50 feet long. This tree had been planted forty years, and was of the variety then known as Doveridge Nonsuch. Something of the plan of espalier training on trellises a few inches removed from walls formerly existed at Montreuil, in France, where it answered very well because of the considerable sun-heat there prevalent. It was tried by the Earl of Holderness when residing at Syon Hill, Brentford, his extensive south walls being trellised, and a Dutch gardener was employed to manage the trees. But the method had to be abandoned, because it was found that what was in France an almost scorching wall-heat was here only just what the trees needed; hence the trellises were removed, the trees being nailed close to the walls. Then they did well and bore good crops. We still find for stone fruits that nailing close to the wall gives better results than is the case when attached to wires. A. D.

WATERING WALL FRUIT TREES.

WALL fruit trees suffer from want of water more often than is generally supposed. This has especially been the case in recent years, when, during three out of four winters, the land ditches in many parts of the country have scarcely run at all. In addition to this, it must be remembered that the wall keeps off some part of the rain. While most admit the need of water in a dry, hot summer, few have any idea that water is beneficial, sometimes absolutely necessary, in spring. When the bloom buds are

developing and the leaves expanding, the trees absorb a great deal of water, and it is then that a good soaking, especially with weak manure water, is extremely beneficial. The failure of bloom to set may often be due to the want of such a watering. During the past winter the rainfall has been much below the average, and the winter was preceded by a remarkably dry summer and autumn. Therefore, it is more necessary than ever this spring that those who like to treat their trees well should give them a good soaking with weak manure water two or three times during April and May, unless the spring turns out to be a very wet one, in which case the watering may be lessened in quantity, though the same amount of manure should be given. This will have the effect of making the blossoms stronger, and will conduce to a more free setting of the fruit.

If a wall fruit tree is to produce a heavy crop of first-class fruit, it must be well cared for from the

erected by Messrs. Bunyard and Messrs. James Veitch are the type of store necessary for the perfect keeping of late Apples and Pears, for, as Mr. Wythes remarked in the same issue (March 16), ordinary built fruit rooms are too dry and arid for maintaining plumpness and the steady progress of maturity. Structural alterations or the erection of new buildings is an item over which the average gardener is not allowed the necessary control, and it is only in a modified degree that the replanting of new trees can be carried on to improve the supply and succession. The desire to excavate and build up an underground chamber in the existing fruit room has been in my case long existent, but as yet the desire remains the only evidence, and until some such provision can be made so long will the supply of Pears be curtailed.

There is a distinct tendency to grow more late Pears since they have been written about so persistently. Only, however, by piecemeal measures,



A FLOWER-BORDERED GREEN WALK.

time the buds begin to swell until the leaves are ready to fall.

ALGER PETTS.

WINTER PEARS.

THE articles by Mr. Owen Thomas, dealing with the hardy fruits in season, and Pears in particular, have been very interesting to fruit growers, and those especially who are responsible for the everyday dessert of winter. Very great disappointment attends the growth, storing, and use of Pears, more especially when a collection of these fruits has been planted, added to, or changed by grafting, or replanting, when sorts originally purchased have been found wanting. It is most disappointing to read of the months of February and March being supplied with delicious Pears, when, as so often happens, exactly the same kinds are owned by others, and the crop exhausted perhaps some weeks before by early maturity. The nature of the fruit store naturally does account for much of this uncertainty, and until some means are devised for retarding in these individual cases the same complaints will continue to be made. Thatched fruit rooms, such as those

conducted annually, can the excess of autumn Pears be transformed into winter varieties. That the desire for winter fruits justifies the effort is a point that requires no emphasis. Mr. Thomas deserves the thanks of the many fruit-growing readers of *THE GARDEN* in bringing forward at an opportune season the merits of the limited selection available for the winter months, and it would be helpful if would-be planters made a special list of Pears for this season, and placed it in such a position that the names became familiar, and as opportunity offers add trees of these varieties to the stock already existing. Where healthy trees already fill all available garden space, the more ready means of adding these late kinds is by grafting, and as scions can be purchased from the nursery there should be no difficulty in carrying it out.

Rood Ashton, Wilts.

W. STRUGNELL.

A FLOWER-BORDERED GREEN WALK.

It is well worth while in every garden where space is not too much limited to set aside

some place for the adequate display of the splendid half-hardy annuals whose time of blooming is from the end of July onwards. Such a border as the one in the illustration, where for the sake of the young bush fruit trees a permanent grass covering is not allowed up to their trunks, offers a good place for these grand plants. If they are kept towards the outside of the border they need not harm the trees, though these would not be benefited by a thorough annual digging such as would be needful if the roots of the flowers covered the whole border.

Here is a chance for the French and African Marigolds and other good Tagetes, for Petunia, Salpiglossis, Nicotiana, Zinnia, and annual Sunflower, and quite to the front the beautiful varieties of Phlox Drummondii and Dianthus Hedderigi.

Be it also noted that in the time of late summer, when all these good things are at their best, it is much pleasanter to walk on the soft turf than on any hard path, while it is also much more restful to the eye.

AN ARTIST'S NOTE-BOOK.

PRIMULA MEGASÆFOLIA.

A MOST interesting and charming Primrose is this, which received an award of merit from the Royal Horticultural Society recently, when shown by Miss Willmott. It was so fully described in THE GARDEN, page 270, that further reference to it is unnecessary. We therefore refer our readers to the note there published.

THE FALLACIES OF DARWINISM.

(A REPLY.)

As there may be others besides "H. R. D." who still believe in "accidental variation, fixed by natural or artificial selection" (THE GARDEN, February 9, page 91), as the Darwinian explanation of the origin of species, I will try to point out the fallacies underlying that view.

It is a *sine quâ non* of all scientific interpretations of natural phenomena that they must be based on facts. Darwin violated this fundamental law of modern science; for he assumed, with absolutely no facts for a basis of his theory, that when the offspring of an adult plant or animal varied in points of structure from those of their parents, they did so "indefinitely," as he called it, *i.e.*, as "H. R. D." prefers to call it, "accidental variation." Following Darwin, he makes a "suggestion" (the reader will note that he brings no suggestive fact at all) that one of a million seeds of a terrestrial Buttercup accidentally cast on water, by "accidental variation, produces a plant with finely dissected leaves, &c."

My comment shall be in "H. R. D.'s" own words:—"The position of the scientist must always be one of refusal to recognise any conjectural but unproved cause for existing phenomena, &c." (second paragraph). Precisely so. Therefore, I refuse to accept "H. R. D.'s" groundless suggestion, when there is ample proof that water is the direct cause of the peculiar structure of submerged stems and leaves. It must be borne in mind that a dissected leaf is only one item. Perhaps "H. R. D." does not know that in every one of the following elements of the plant there is a complete difference between a submerged and an aerial plant—

epidermis, hairs, stomates, cortex, lacunæ, wood, vessels, liber, medulla, and in details of the anatomy of the root, as well as in germinal growth, &c.

Which is the most likely procedure—that all these parts should change their features accidentally, to be selected (separately or together), or that there should be some common cause which induces the whole of them to change together, so that the whole plant is at once fitted for a life in air or for one under water?

"H. R. D." is evidently unaware of the ease with which the latter is done. If a shoot of the Water-Crowfoot is crowded out of the water, where it grows very thickly, a common occurrence, the shoot stands erect in the air and the whole of the above-mentioned parts at once grow in harmony with an aerial existence, the change in its anatomical structure being abrupt, at the level of the water.

Or, again, if you sow the seed in a garden border, every one (not one only, as he suggests, accidentally)



PRIMULA MEGASÆFOLIA (NATURAL SIZE).

(From a drawing by H. G. Moon.)

grows up into a terrestrial plant, with all the details mentioned in adaptation to air. Replant them in water. All the leaves die; but a new set are soon developed adapted for living a submerged life.

"H. R. D." makes a second groundless statement: "The enormous extent to which these (accidental) variations daily occur in Nature, &c." I have studied Nature for nearly fifty years, but have never seen them yet. "Individual variations," of course, exist in all plants, so that no two peas in a pod are absolutely alike; and Darwin made a second mistake in supposing such slight and unimportant differences to give rise to variations. As it is, the commonest and most social species are just those which have no varieties, as Buttercups, Daisies, Bluebells, Bracken, Heaths, &c.

Such variations do not supply materials for a systematic botanist to name them as "varieties," much less "species." They do not transcend "individual variations" as long as the plant lives in a constant environment, as all plants usually do. I shall be glad to know the names of some of the plants of which "H. R. D." says "variations occur daily."

It would be a remarkable fact, if it were not so common, that when one has been long under the impression that he holds an undoubted truth, and it is pointed out that it was not really founded on facts, his mind seems "holden" against any amount of evidence that can be produced.

Inductive evidence is simply the accumulation of probabilities till the alternative is scientifically unthinkable.

"H. R. D.," I presume, accepts beliefs of physicists that they know some of the elements in the sun. He accepts the conclusions of geologists. He believes that the earth revolves on its axis, and that the sun does not go round it; yet he has no other evidence whatever, beyond the great probability that those beliefs are true.

But, having learnt to believe in accidental variations with natural selection in biology, he imagines that he holds a sufficient interpretation of the origin of species.

Nature does not go to work in the haphazard sort of way as Darwin supposed, and which Huxley called a method of trial and error. The process is far simpler and much more certain and effective. It is this—*Protoplasm is endowed with the power of responding to external influences*, and under these it makes cells and builds up tissues, out of which visible organs are formed in perfect harmony with the environment.

"H. R. D." recognises the changes which result from variations, but why does he continue to hold an imaginary method, and make fresh imaginary suggestions when one can see the whole process of self-adaptation going on under one's own eyes, as soon as the surrounding conditions are altered?

I have alluded to inductive evidence as being sufficient, but there is abundance of experimental verification to establish the truth of my contention. Thus, it is an obvious coincidence that spinescence is often associated with drought, but not with water. Inductive evidence, drawn from innumerable cases all over the world, says it is simply due to the arrest of growth from a deficiency of water.

Experimental proof is to be had by growing naturally spiny plants in wet soil and damp air. Then the spines are no longer developed.

Samphire and many other plants growing by the sea side have leaves of a more or less fleshy texture. Induction says this is due to the presence of salt, especially as a similar occurrence is met with inland in the neighbourhood of brine-springs.

Experiments made of watering ordinary thin-leaved plants with salt and water converted them into similarly thick-leaved ones, and so confirmed the inductive proof.

What more does "H. R. D." and those who think with him want, before they will be able to appreciate inductive evidence of the power of self-adaptation of plants and animals to new conditions of life; whereby first, new varieties, and then, new species arise in the world? If he requires further evidence I must refer him to my two books—"The Origin of Floral Structures" and "The Origin of Plant Structures," and to some papers in "Natural Science."

GEORGE HENSLOW.

BRITISH HOMES AND GARDENS.

BARFORD HILL, the seat of C. A. Smith-Ryland, Esq., lies in the heart of the most interesting portion of one of our most interesting counties. The near neighbourhood is full of historical associations, for within a radius of ten miles are Stratford-on-Avon, the birthplace and burial place of



BARFORD HILL, FROM THE SOUTH-EAST.

Shakespeare, Kenilworth Castle—in ruins ever since it was so reduced by Cromwell's forces—Warwick Castle, Guy's Cliff, and the ancient town of Warwick. One might traverse also the county of Warwick in vain for more beautiful scenery than that of this district. Indeed, from one certain spot, midway between Barford and Warwick, is obtained what is generally admitted to be the finest view in Warwickshire. The onlooker has immediately before him the river Avon, winding its way through the wooded park until it is lost to view beneath the shadow of Warwick Castle, itself situated on high ground, and enclosed within an admirable setting of Lebanon and Atlas Mountain Cedars. The towers of Warwick High church, and the glimpse of various other buildings in the town, add variety of character to the scene, whose horizon is formed by the undulating hills beyond.

From the terrace of Barford Hill extensive stretches of Shakespeare's county are before one. At the foot of the hill upon which Mr. Smith-Ryland's residence stands flows the river Avon; on the right it is visible until lost to view behind the Warwick woods, while on the left the open country admits of its being traced for miles in the direction of the quaint old-world villages of Sherborne and Wellesbourne, on to where one is told lies Stratford-on-Avon. With such a setting and such an environment it would be unfortunate did the immediate surroundings of Barford Hill not fulfil the expectations that one would naturally form of them, but, happily, this is not the case, for from the Rose-embowered pergola and creeper-covered arbour by the river side, through the charming rock garden and Fern dell that lead one to the Rose garden and herbaceous borders by the house, everything is in keeping with the rightful and tasteful environments that a country home should possess.

The rock garden contains Hepaticas, Primulas, Scillas, Chionodoxas, and many other indispensable early spring flowers. In

the bolder portions evergreen and flowering shrubs abound in such variety as to enable one easily to conjecture their appearance in early summer. A vigorous plant of *Staphylea colchica* is noticeable here, apparently none the worse after the several winters it has passed through. In the dell are fine masses of various Bamboos, while an excellent feature is the introduction of large tree roots, now completely covered, some with Ivy, others with Roses, Clematis or Honeysuckle Beds of

and that later will be margined by waving masses of Bracken and other Ferns and the stately Foxglove.

It is but a minute's walk to what we may term the working portion of the garden, and this it is well worth one's while to see. Mr. Richard Jones is he who is responsible for the superintendence of Barford Hill gardens, and well does their appearance justify his holding that position. Mr. Jones has many times been a successful exhibitor at our large London and

deciduous Azaleas, Tea and Hybrid Tea Roses, *R. rugosa*, and some now vacant except for a bright and attractive edging of *Sedum* acre in flower, that in summer are gay with numerous sub-tropical plants, Cannas, Palms, *Dracenas*, *Eucalyptus*, *Grevilleas*, *Aralias*, &c., partially surround the house. Several plants of *Eucalyptus globulus* were left out of doors during the past winter that some idea might be had of their hardiness, and they have not passed well through the ordeal. The cold, keen winds seem to have damaged them even more than has the frost. The foliage now has, to say the least of it, a far from pleasing aspect. On the eastern side of the house, shown in one of our illustrations, is a particularly fine specimen of *Cedrus atlantica glauca*; indeed, it is perhaps the largest we have yet met with. From the terrace garden and rosary the park stretches away to the south for a considerable distance down to the wooded slopes of the Avon, and it is along the latter that one finds some at least of the prettiest features of Barford Hill. Here are cool and shady walks, where one obtains glimpses of the Primrose and Marsh Marigold,



A VIEW FROM THE TERRACE AT BARFORD HILL OVERLOOKING THE RIVER AVON.



BARFORD HILL: THE ROSE-COVERED PERGOLA AND SUMMER HOUSE.

provincial shows, more particularly with fruit and Chrysanthemums, and one is not surprised to see the excellent methods of culture here practised. There are some splendid trees of the best varieties of dessert and culinary Apples, that look as though they had been planted seventeen years ago, instead of seven, as is actually the case. At the time of planting they were but one year old from the graft. They are not yet at their best, and for several seasons yet exhibition fruit may be expected from them. In the fruit houses under glass a method (also practised in other gardens, but not nearly to the extent that it deserves) is noticeable, namely, the practice of cultivating Peach and Nectarine trees that are planted along the front of the house on trellises that curve away from the roof, instead of running parallel with it from top to bottom. The idea, of course, is to allow trees planted against the back wall to enjoy an additional amount of light and air. Trees so planted when shaded by those in front are rarely or never satisfactory, and this method, while not interfering in any way with the quality or quantity of fruit produced by trees trained to the front trellis, has the advantage of allowing the trees on the back wall to thrive and fruit well also. One of the cool plant houses contains a remarkably fine specimen of *Clianthus puniceus*; it must cover a space quite 20 feet by 15 feet, and is now bearing hundreds of pendent racemes of quaint crimson flowers. In a hot house *Stephanotis floribunda* is also exceptionally fine, quite covering a good portion of the roof. Mr. Jones has well grown examples of such useful decorative plants as *Crotons*, *Dracenas*, *Panax*, &c., and noticeable also is the old *Anthurium Ferrièreense*, whose rosy pink spathes render it worthy a place in every collection of the larger *Anthuriums*.

There is an interesting and representative collection of Orchids, amongst which are worthy of note the hybrid *Cypripediums*, some of which were recently exhibited at the Drill Hall, Westminster, numerous imported *Odontoglossums*, many yet unflowered, several *Cattleya Trianae alba*, *Cattleya Schroderae*, *Dendrobium atro-violaceum*, *D. aggregatum*, *D. Pierardi*,

and others, *Odontoglossum citrosum*, *O. Rossi majus*, various *Masdevallias*, *Vandas*, several splendid varieties of *Laelia anceps*, &c. Tea Roses under glass are well grown at Barford Hill; several varieties are cultivated, including *Marie Henriette*, *Gloire de Dijon*, *Perle des Jardins*, and *Maréchal Niel*; they are represented by splendid plants that quite fill the roof of a lean-to house, and produce an abundance of blooms during the winter months. One might write for long about many other plants in Barford Hill gardens before the list of those well worthy of detailed mention would be exhausted. The *Chrysanthemums*, of which flower Mr. Jones is a most successful grower and exhibitor, even have not been spoken of. It is, however, a pleasure to be able to even partially record the contents and characteristics of such a typical British garden, that owes much of its interesting and striking individuality to one who maintains well the best traditions of British gardening.

TREES AND SHRUBS.

SMALL-LEAVED BERBERISES IN GROUPS.

FOR creating fine effects in the pleasure garden and for planting by the side of woodland walks, the value of the small-leaved *Berberises* is not, I think, so much appreciated as it should be. Among them are to be found handsome free-flowering shrubs, and if a careful selection is made from among them and positions fixed upon for planting where they will show to the greatest advantage, the result cannot fail to be but gratifying. In addition to their making a fine display in the spring and early summer months, one or two kinds, particularly *B. Thunbergi*, are beautiful for their leaf colouring in the autumn, and a group of the latter seen in the middle of October, when the foliage is of an intense crimson hue, at once arrests attention. These *Berberises* are usually planted singly in shrub beds or in the forefront of shrubberies bordering on the footpath in some secluded part of the garden, and seldom are they planted in good bold groups. When fully established single specimens are handsome

when in flower, but the effect is considerably enhanced if, instead of one specimen, there are, say, from six to a dozen, consisting of from two to four, arranged according to their habit of growth. When planted in groups these *Berberises* are seen at their best, and the colour of the flowers, ranging as it does from creamy yellow to deep orange, makes the whole mass visible from a considerable distance if planted in an open situation.

Large irregular-shaped beds filled entirely with these small-leaved *Berberises* have a good effect when they occupy an isolated position on a lawn. In this case the taller growers should be planted in the centre of the bed, those of medium growth next, and the dwarf ones on the outside. With most shrubs such an arrangement would look formal, but the natural habit of growth of the *Berberis* precludes all possibility of such a result. They may also be employed with advantage in suitable positions in the wild garden, also for planting by the side of woodland walks in open positions where the shade is not dense. Here the method of grouping already recommended should be adopted when planting, and where there is space for doing so each kind should be represented by a number of plants, particularly *B. Darwini*, *B. stenophylla*, and *B. Thunbergi*.

So far as my experience goes they are hardy, and will succeed in any good loamy soil. Plant in the autumn, as the roots then have time to get partly established before March winds set in, which are very harmful. Their long, arching shoots, if cut with a good length of stem, are useful for indoor decorations; when in flower they last for several days in good condition. The shoots of *B. Thunbergi* are most valuable for decorations in the autumn; in fact, where the variously tinted foliage of trees and shrubs is made use of for dinner table decoration at that season the arrangement would be incomplete without a few shoots of this particular kind.

The best *Berberises* for planting in the manner indicated are *B. Darwini*, which grows to a height of 6 feet and upwards and produces an abundance of bright orange flowers; *B. buxifolia* has golden yellow flowers, and grows several feet high; and *B. stenophylla* 3 feet, the long, pendulous shoots of the latter being clothed with bright yellow blossoms; *B. Thunbergi*, already referred to, grows about 2 feet in height, and has creamy yellow flowers; *B. empetrifolia*, which is one of the parents of *B. stenophylla*, is a low-growing shrub, and suitable for planting on the margins of beds and groups; *B. dulcis nana* should also be included, being a most compact dwarf-growing variety.

A. W.

THE SUB-TROPICAL GARDEN.

PLEASANT it is in the days of late summer, and until the time of the earlier frosts, to wander in wide grassy ways between well-grown masses of the splendid half-hardy plants of noble port and large foliage, that we may enjoy for some four months of the flower year. For this use the most important plants are *Ricinus*, *Nicotiana*—the newer *N. sylvestris*, a grand thing—*Canna*, *Dahlia*, *Acacia lophantha*, *Zea*, and several of the handsome *Solanums*, while *Palms* and *Musas*, *Hydrangeas* and *Agapanthus*, set out in pots and tubs, will add grand forms of both leaf and flower. For lower growing plants near the edge *Cineraria maritima* is a precious thing, and in our southern counties will last for several years.

AMERICAN NOTES.

THE WATER GARDEN AND ITS SURROUNDINGS.

WITH the advent of spring there is a general cleaning up. After the effects of a prolonged winter season dead leaves and other vegetable matter are more or less in evidence. When the ice and snow disappear all such rubbish should be gathered up and composted, excepting dead branches and stalks

of hard grasses that do not readily rot. Burning rubbish is one way of getting rid of such things, but it is not economical. In spring and autumn the air is foul and offensive with smoke of burning and smouldering leaves and rubbish, while such material, if composted, would be valuable, rich in humus, for top-dressing and enriching the soil, and can be used for potting and other purposes.

In all instances where protection was given artificial ponds and tubs this should now be cleared away, and where shrubs need pruning they should receive early attention, not the regular shearing that is too often adopted. The barbarous and unnatural effects of such are painful and ludicrous, yet such work is repeatedly done by so-called gardeners, with a plea of lack of time. All flowering shrubs should be judiciously pruned, not "trimmed" up. To prune such shrubs as Forsythias, Spiræas, Deutzias, Staphyleas, and most of the flowering shrubs now, means a loss of the spring and early summer flowers. Such bushes as *Hydrangea paniculata* may be pruned hard in, as they flower late in the season, but for the bulk of flowering shrubs pruning should be done immediately after the flowering season. All that remains to be done after the leaves fall is to thin out the branches where they are unduly crowded or out of place.

Where plants are overgrown and crowded this is a favourable time for transplanting and thinning out, and should be attended to as early as possible. The canes of *Arundo* and other grasses may now be cut off, but in the case of Bamboos let these remain until all signs of life fail. The past winter has been very trying on this class of plants. Severe freezing and hard winds, with no protection from snow, have in many instances left the canes

nearly bare, and the leaves sere; but I notice that in most cases the canes are alive, and doubtless before new ones are developed the old ones will be furnished with new leaves. These giant grasses are becoming more popular every year, and should be found on all margins of ponds. They are also valuable as specimens on the lawn or may be grown in tubs, also as pot plants. The margins of ponds and streams will need attention. Where there is no shrubbery the grass will need beating or rolling, as the action of frost will leave these in a spongy condition. Field mice will sometimes do much havoc, and also musk rats. Where they have had a lodgment any damage to banks should now be repaired and continued vigilance exercised, as there is little, if any, fresh or new vegetation, and roots and tubers will be sought after. Therefore do not fail to have the steel traps in evidence, and in the most likely run or spot the rats might visit.

All such cleaning up and possible repairs should be done before planting time arrives, but with other unfinished business planting time will soon be the order of the day, and where the best results are expected the work must not be delayed. It may not be necessary to do much fresh planting or renewing, yet it is well, where a luxuriant growth has been the result of past seasons, to look over such plantations or clumps of plants. It may be very beneficial to do some thinning out. Size is a potent factor in *Nymphæa* flowers, as well as in Carnations and Roses, and must not be overlooked by the grower. Where plants are crowded it is possible to get quantity of flowers but not size. Of course there are varieties of *Nymphæa* that produce but moderate-sized flowers and some even small flowers. Where hardy varieties are grown

in tubs or boxes it is well to replant every season, discarding the weak growths and renewing the soil. This is not absolutely necessary in all cases, but if the finest, largest, and best flowers are desired, then it is necessary.

Advance in this line is becoming rapid, and every season witnesses new and improved varieties. Additions of recent years are more distinct and desirable. In most cases these are not rampant growers and do not make larger rhizomes, and purchasers feel disappointed on receiving such small roots in a dormant condition. The imported roots are pygmies in 3-inch pots. The best way to handle these roots is to pot them up, using 4-inch or 5-inch pots, according to the size of the roots. These can be given protection for a few weeks indoors. A number of plants can be placed in a tub until nicely established, and these can be safely transplanted into their permanent quarters, with a good ball of roots and soil without danger of being shifted, whereas a small root would of necessity have to be "buried" to keep it where wanted or there is danger of the same rising to the surface, and many unexplainable things might happen. The safest and best method is to start them in pots and protect them in the early stages, either in a greenhouse or in a frame, avoiding a high temperature.

The latter part of May and beginning of June, according to locality, is the time for planting out the tender *Nymphæas*. These should be started in April, allowing from six to eight weeks' growth in a temperature of from 70° to 75°, always giving the plants the full benefit of the sunlight and ample ventilation. It will be found of great advantage to procure tubers of such *Nymphæas* now and grow them on the place in preference to



A. SUB-TROPICAL GARDEN

buying plants at the time for planting. Small tubers will produce flowering plants in a few weeks, and can be safely sent by mail, whereas plants would have to be shipped by express, and there would be more or less of a check to the plants, besides the expressage.

Every season there are some complaints of Nelumbiums not growing. In all cases there must be a cause, and it is very hard to determine what it is in each individual instance. Although the Lotus is hardy it must not be treated the same as hardy perennial plants. The plants or tubers will suffer if subjected to extremes of temperature, and if the tubers are received during cool weather and the conditions remain so for any length of time, the tubers will rot. The weather should be settled warm and the conditions favourable for growth at once. If tubers are kept indoors in a tub or pan, where they grew the preceding season, and in a temperature of 60° to 65° no signs of growth will be perceptible, therefore do not plant until warm weather. There are other dangers besides planting too early. The tubers are sometimes difficult to keep in place, especially if the water is deep. No better method can be adopted than to start the tubers in pots or seed pans, thus securing a ball of soil and roots, giving them similar treatment as advised for Nymphaeas, and a temperature of about 70°. Tubers started thus will make good plants in a few weeks, and when the season is late for planting so much additional time may be gained, besides far better and more satisfactory results. Another cause of failure is planting the tubers in tubs, using a quantity of fresh manure with the soil. Before the tubers can make a fair start fermentation takes place. Under such conditions the new growth is almost sure to decay, and the result is failure.—WM. TRICKER in the *American Florist*.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

PLANTING CREEPERS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I shall be very much obliged if you will give me some help as to the size of holes and the soil I should have to grow creepers in against a new addition to our house. The house stands on a terrace, and the stables, which partly cover the south wall, are sunk 6 feet below the floor level of the house in order to reach the level of the road. Bad as our soil is any time, what is left now in the future stable yard is hopeless, being nothing but yellow sand. The south wall of the house will be sheltered from the east by the stables, but the stable yard will be paved up to the wall, therefore once the creepers are planted it will be difficult to give fresh soil. What depth and what width should the holes have? I can get a certain amount of loam, and would make the holes ready for the creepers to be put in early in the autumn. Would it be possible to grow a Magnolia, seeing what poor soil it will be surrounded by? Will you kindly tell me what creepers will do best in such soil? Against the west wall of the house the soil is not quite so bad, as 1 foot down we get to a bed of loam 1½ feet deep. The house is very sunny, and in summer the heat is sometimes intense.

Guildford.

M. D.

[Although your soil is so poor there is no reason why the climbers should not succeed provided the place is well prepared for them beforehand. From your note we gather that drainage is assured, hence this will give no trouble. Holes 4 feet in diameter, and from 2 feet 6 inches to 3 feet deep, should be taken out and filled with good soil. As you can get a certain amount of loam, a lasting compost can be formed of loam one-half, and the other half a mixture of your excavated sand, leaf-mould, and a little thoroughly decayed manure. The whole must be well incorporated together, and if the loam is in a fairly rough state so much the better. Against the west wall, where the soil is

not so bad, the bed of loam should be well broken up before planting; indeed, it will be all the better to take it out and mix as above directed. By so doing it should be possible to grow *Magnolia grandiflora*, and the following plants are all available for the purpose named: *Jasminum officinale* (common Jasmine), whose white fragrant blossoms are admired by everyone; *Jasminum nudiflorum* (winter Jasmine), which produces its golden blossoms throughout the winter; *Cydonia* or *Pyrus japonica*, particularly a good bright form, such as *cardinalis*; *Escallonia philippiana*, an evergreen, with a profusion of white flowers about midsummer; *Forsythia suspensa*, golden blossoms, end of March, deciduous; *Garrya elliptica* (evergreen), whose most prominent feature is the exceedingly long catkins, at their best in the winter; *Bignonia radicans*, deciduous, trumpet-shaped, brick red flowers, borne in July; *Chimonanthus fragrans* (Winter Sweet), deciduous, highly fragrant blossoms in midwinter; *Ceanothus dentatus* (evergreen), blue flowers, produced during the summer. Besides these you have the choice of *Ivies*, always fresh and green, different forms of *Clematis*, *Honeysuckles* (*Lonicera*), of which one of the best is *L. flexuosa*, and *Vitis* or *Ampelopsis Veitchi*, which attaches itself to almost anything, but loses its leaves in the winter. Other Vines are the huge leaved *Vitis Coignetiae* and the cut-leaved *apiifolia*. No list of wall plants would be complete without the Fire Thorn (*Crataegus Pyracantha Lalandi*), whose brilliantly-coloured berries form such a glowing feature for months. You do not say how many plants you have room for, hence we have given the above list, from which you can make your own choice.—EDS.]

LILIUM BROWNI.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It is rather singular that *Lilium Browni*, referred to on page 269, should, like *L. testaceum*, recently illustrated in THE GARDEN, be of obscure origin, for nothing seems to be known of its early history, except that it first occurred in the catalogue of F. E. Brown, nurseryman, of Slough, about the year 1838. After this it soon made its way to the continent, and would appear to have been grown by the Dutch cultivators ever since, consequently the case of dying out under cultivation, which is urged against some Lilies, does not apply to *L. Browni*, which still remains one of the most delightful of all. Judging by the nearly allied forms (or varieties) imported from China, *L. Browni* would appear to be a native of that country, but I cannot find any account of its having been found there, either in a wild or cultivated state. True, the name occurs in the catalogues of some of the Japanese nurserymen, and bulbs thereof are often sold as such in the London auction rooms during the winter months. They, however, represent a totally different species, viz., *L. odorum*, which is also known in gardens as *L. japonicum Colchesteri*, and as such was awarded a first-class certificate by the Royal Horticultural Society in the summer of 1895.

Strange that such confusion should exist between *L. Browni* and *L. odorum*, as the two have so many distinguishing features. To commence with the bulbs—those of *L. Browni* are narrow at the base, and gradually widen upwards, with a peculiarly flattened top. They are usually more or less tinged with reddish-brown. In *L. odorum* the bulb is looser in texture, with the centre slightly raised, the scales larger, and consequently less numerous, while their colour is yellowish, after the manner of *L. longiflorum*. The bulbs of *L. odorum* are even more liable to decay at the base than those of *L. Browni*. Directly they appear above ground it will be noticed that the shoots of *L. Browni* are tinged with reddish-brown, while those of *L. odorum* are green. As they develop many other points of difference will be seen, thus the stem of *L. Browni* is usually bare of foliage for some little distance at the base, such portion being of a purplish hue, while the dark green leaves are long, narrow, and taper to a sharp point. *L. odorum*, on the other hand, has green stems and pale tinted leaves, which are much

shorter, broader, and thinner in texture than those of the other. In the flowers themselves the difference is also strongly marked, for those of *L. Browni* are large, trumpet-shaped, and of an unusually thick waxy texture; inside they are of an ivory-white tint, but heavily suffused with chocolate on the exterior of the three outer segments, so that the unopened buds are entirely of a reddish-brown hue, that is, where they have been grown exposed to the sun. The dark brown anthers are very conspicuous against the rest of the flower, but in showery weather the pollen is apt to mar its beauty. The flowers of *L. odorum* differ from the preceding in being shorter in the tube, and much less suffused with chocolate on the outside. They are also of a creamy tint inside when first expanded, but become whiter afterwards. The blossoms are less powerfully-scented than many Lilies. As a garden plant I consider *L. Browni* much superior to the other. H. P.

WINTER-FLOWERING PLANTS FOR CONSERVATORY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have a conservatory heated to about 60°, and I should be much obliged to you if you would kindly give me a short list of flowering shrubs, in fact anything with flowers which could be had in bloom in December, January, February, and March. The conservatory is about 20 feet by 15 feet. I have a stove house, intermediate house, and long, cold peach houses. I very much fancy perennials, such as *Doronicums*, *Sweet Rockets*, &c., and would be glad if you could suggest a few more, and would also kindly give a few hints as to when they ought to be potted up and brought into heat, and when they would flower.

Nantwich.

W. VON B.

[You are not likely to meet with much success in flowering such subjects as *Doronicums* and *Rockets* under glass in the early months of the year, still they might be induced to flower a little earlier than they would naturally out of doors. There is, however, no lack of subjects that may be had in flower during the months mentioned, particularly after Christmas has passed. A great number of bulbs are available for the purpose, especially *Hyacinths*, *Tulips*, *Narcissus*, *Chionodoxa*, *Crocus*, *Scilla bifolia* and *sibirica*, *Fritillarias*, &c. These may all be obtained in the autumn, potted as soon as possible, stood in a bed out of doors, and covered with coal ashes, as with this treatment they root freely. Then, when the tops begin to start into growth, they must be taken from the ashes, and might be stood in your cold Peach house, from where a few at a time may be taken into the warmer structure, as by so doing a succession is kept up. Lily of the Valley, too, may be treated in the same way. Among hardy herbaceous subjects likely to suit you are *Christmas Roses*, flowering naturally in the depth of winter, and when protected from the weather they are delightfully pure in tint. *Lenten Roses*, too, that is several other kinds of *Helleborus*, if potted in the autumn and kept in a cool house, are also very valuable for greenhouse decoration, while the *Spiræas* are a very popular class, being universally employed for the purpose. The *Bleeding Heart* (*Dielytra spectabilis*) is admired by many, while the large bold-growing *Saxifraga Stracheyi* flowers under glass early in the year. The German Iris, too, may, with gentle forcing, be had in flower by the middle of March, though it is rarely so treated. All of these herbaceous subjects may be potted in the autumn and stood outside, and on the approach of severe frost removed into your cold house, whence they can be taken into heat as required. As your conservatory is heated to about 60° this will be warm enough for most of the subjects referred to, though if a few of any are particularly needed they may be pushed on in the intermediate house. Hardy shrubs, again, should be potted in the autumn, wintered in your cool house, and forced into growth by the middle of February or thereabouts. Among the best for such treatment are *Azalea mollis*, double Chinese

Plum, *Staphylea colchica*, *Forsythia suspensa*, *Spiræa confusa*, *Wistaria sinensis*, Cherries, Peaches, &c. Then there are the usual flowering occupants of the greenhouse, such as *Cyclamen* and *Cinerarias*, of which there are now many delightful forms. *Primulas*, too, are also available, not only the universally grown *Primula sinensis*, but also the golden-flowered *P. floribunda*, and the paler-tinted *P. verticillata*, as well as that ever-flowering kind *P. obconica*, a delightful plant in every way but one, and that is handling the foliage often severely irritates the skin. *Azaleas* and *Camellias*, which can be purchased in the shape of neat little bushes, bristling with flower-buds during the autumn, are invaluable for conservatory decoration in the early months of the year. *Heaths*, again, that need essentially greenhouse treatment, contain among their number some that flower in mid-winter, prominent among them being *Erica gracilis*, *hyemalis*, *melanthera*, and *wilmoreana*. The same treatment, too, is needed for *Epacris*, whose long spikes of pretty Heath-like blossoms are very valuable for cutting from. Many of the subjects above enumerated will not flower till the new year, but the *Chrysanthemums* and

present in the course of erection. Many of the numerous houses are devoted to the culture of *Palms*, and the former are of such a size and the latter so numerous that one could almost imagine oneself in the midst of a *Palm forest*. The plants are in all stages of growth, and comprise various species that are the most useful for decorative purposes. *Kentia fosteriana* and *K. belmoreana* are, of course, well represented, for they are invaluable plants. The pretty little *Cocos weddelliana*, undoubtedly the best of all *Palms* for effective decoration where only small plants are required, when seen in thousands together, as in the case in the Bush Hill Park Nurseries, has a particularly pleasing effect. The enormous number of *Palms* that Messrs. Low cultivate, and which must amount to many hundreds of thousands, gives striking evidence of the popularity of this graceful evergreen for decorative purposes in this country.

The Orchid enthusiast would enjoy a day in Messrs. Low's nurseries; he would, indeed, find more than enough of interest to occupy his time. Those charming *Orchids* that so many find a difficulty in cultivating successfully, viz., the

Slipper, quite a diminutive flower, whose predominating colour is a pretty shade of yellow. There are thousands of plants of *C. callosum*, including a few specimens of the rare and valuable green flowered variety. Large importations of *C. callosum* are made in the hope of a few green ones appearing. Some idea of its rarity and value may be gained when it is mentioned that only three or four have so far been obtained from an importation of several thousands of plants. *C. lawrenceanum*, whose beautiful foliage alone makes it worthy of cultivation, is also grown in large quantities. Many other *Cypripedes*, that must unfortunately be left unnamed, are also now in bloom. *Cattleya Schröderæ*, that most sweetly scented of *Cattleyas*, and appropriately named the "Hawthorn-scented," is not difficult to locate. *Cattleya Trianae* and several very finely coloured varieties of it are also noticeable, as also is *C. intermedia alba*, one of the most chaste and costly of *Cattleyas*. Others in evidence are *Cattleya Mossiæ*, good forms of *Lælia Jongheana*, *Oncidium Krameri*, certainly a better flower than *O. Papilio*; *Miltonia Roezli*, *Oncidium concolor* (bearing drooping racemes of flowers, a splendid yellow in colour) in baskets; *Dendrobium chrysotoxum* that so many find a difficulty in inducing to flower satisfactorily; *Angræcum citratum*, with its sprays of small pure white blossoms; and thousands of *Odontoglossums*, some of which have flowered, though the majority of them have not yet done so, having been recently imported. *Anectochilus setaceus*, a plant whose leaves are perhaps not surpassed in the whole vegetable kingdom for beauty and delicacy of marking, is cultivated by Messrs. Low in the house containing *Phalænopsis* and other *Orchids*.

It would be difficult, if one had even the time and space to do so, to attempt to enumerate or describe but a small portion of the plants cultivated in the Bush Hill Park Nurseries; one sees plants both hardy and tender, soft wooded and hard wooded, stove and greenhouse, all thoroughly representative of the several departments of horticulture. One house filled with splendidly grown plants of *Pandanus Veitchii* well demonstrated the decorative value of this variegated-leaved stove plant, and the specimens of several varieties of *Crotons* and *Dracænas* elsewhere were equally fine. Those to whom greenhouse plants most appeal would be delighted with the *Azaleas* that are masses of flower, comprising many colours, the *Genistas* in various sizes, the numerous *Ericas* and *Epacrises*, *Acacias*, *Boronias*, &c.; even *Malmaison Carnations* were in flower at the time of our visit. Those who attended the Royal Horticultural Society's Show in the Temple Gardens last year will remember the new *Schizanthus* (*S. wisetonensis*) then exhibited by Messrs.

Hugh Low, and how much admired it was. This, as may be expected, is grown at Bush Hill Park in quantity, and the plants, which will soon commence to show their buds, will doubtless be conspicuous at the next meeting in the Temple Gardens. The *Tea Roses*, cultivated extensively in pots under glass, the *Cyclamens*, the representative collection of *Heaths*, and other hard wooded plants, &c., each of which, like many more, constitutes a department, cannot be described in detail, but they are equally well cared for, as are those more fully referred to, and one could not speak better of them.

Early Strawberries.—For either pot culture or an early border many kinds have from time to time been recommended, but after several trials I have found that old and excellent variety *Vicomtesse Héricart de Thury* to be one of the best. I know that its size does not make it a market favourite, but there can be no question about its quality, as even when forced in a steaming hot house the flavour is superior to other kinds given the same treatment.—G. W.



ONE OF THE ORCHID HOUSES IN MESSRS. LOW'S NURSERY AT ENFIELD.

Salvias will generally continue blooming well on into the month of December. In the stove *Euphorbia fulgens*, *Poinsettia pulcherrima*, *Anthuriums*, and *Amaryllis* are all showy winter-flowering subjects. This list might be considerably extended, but it is a fruitful source of trouble to attempt the cultivation of too many classes of plants, particularly where space is limited.—[Eds.]

NURSERY GARDENS.

MESSRS. HUGH LOW AND CO.

LONG has the name of Hugh Low been familiar to all engaged in horticulture, and the visitor to the nursery establishment of this firm at Bush Hill Park, Enfield, finds abundant evidence to show not only how the old reputation is maintained, but also what great improvements and extensions have been recently carried out. Even now, however, these latter are by no means finished, for several large glass houses are at

Phalænopsis, grow here quite freely; several of them are still in flower, although most are now over. It is curious how erratic are these *Orchids* in their behaviour, many cultivators, try as they will, cannot really succeed with them, others again grow them without much difficulty. We well remember in one large garden where every care and attention were given to the collection of *Orchids*, a special house was constructed for the *Phalænopsis*, and had among other special attributes a double roof made of thick glass, so as to obviate as much as possible the necessity for heavy canvas shading, yet the results attained were only moderately successful. Some of the finest plants of *Phalænopsis* it has been our fortune to meet with were cultivated in a glass house in quite a small private garden at Marseilles; here they were really very fine, although possibly the climatic conditions had as much or more to do with the successful efforts of the cultivator than had the methods of culture practised.

The *Cypripediums* are particularly well represented in Messrs. Low's nursery, and many are now in flower. One deserves special mention, namely, *C. Exul*. This is a charming little *Lady's*

GARDENING OF THE WEEK.

FLOWER GARDEN.

A COLD, wet spring will have left outdoor work much behindhand, and in many cases some of the work written of in former calendar notes will still be unfinished.

HARDY ANNUALS

of most kinds may still be sown, and when the object is late instead of early flowers, this late sowing is likely to prove satisfactory, provided the ground has been well prepared and manured sufficiently to encourage a full development of growth and flowers. Hardy annuals must be encouraged in every way to prevent starvation; they should be thinned early to the required distance, and the soil lightly stirred around them. Slugs frequently do much damage at this season, some plants proving so much to their liking that they clear off whole batches of seedlings that are not protected in a very short time. It is necessary to prevent this as the protective means we have, such as dusting with lime or soot, are nullified with every shower, and must be repeated again and again. In the herbaceous borders we have the same need for anxious care to prevent slugs from making meals of our choicest Phloxes and many other things; the borders should be visited after dark with a lantern and the pests searched for near all plants that are liable to attacks. Handful of bran placed on pieces of slate here and there about the borders prove an attractive bait, and these heaps should be visited late at night.

Annuals sown under glass are the better for being pricked off in a frame on a few inches of sandy soil, so that each plant may have a good ball by the time it is transplanted to its flowering quarters. This work is often neglected when the seeds have been sown a little later than usual, because it is getting so near the time for planting out; but it always pays for itself, even though they have only a fortnight or three weeks in which to root, as they may be nursed a little to begin with, and take no harm from a week's delay in planting if the weather is not propitious at the usual time. Moreover, they are better able to resist the effects of any trying weather that may set in after they are planted.

THE SALPIGLOSSIS

is a tender annual that is often sown under glass, and thereby frequently spoiled. It is far better to sow where the plants are to stand and thin out to the proper distance when the seedlings are big enough to select from. By this treatment we escape largely a disease to which these plants are subject when sown in the usual way and transplanted. Should the soil be heavy a little sand should be raked into the surface after the seeds are sown.

MIGNONETTE

is welcome almost everywhere. After sowing any beds or borders that are to be filled with it, the soil of which by the by should contain a good proportion of lime, I like to scatter any seeds that remain on the herbaceous borders. If not needed for filling up they can easily be destroyed, and on the other hand a plant here and there will come in useful, single plants often attaining huge dimensions. Useful as the common Mignonette is, there are some fine selected types which far exceed it in beauty, and some of these should be sown. Old stools of

DAHLIAS

which are wanted for flower garden work should be put in a pit or frame now, have a little soil thrown round the roots, and be started into growth. It is not advisable to get these too forward in growth before it is safe to plant them, so they need only have just sufficient covering to protect them from frost and water enough to keep them plump. The

PLANTING OF EVERGREEN SHRUBS

should soon be finished, and all newly-planted things of this kind will be grateful for a mulching of manure or short grass. See that they are all

well watered in, and continue watering for several weeks until the new growth is well advanced. The first start of young shoots should not deceive one into the idea that no further attention is required. J. C. TALLACK.

Shipley Hall Gardens, Derby.

KITCHEN GARDEN.

LARGE ONIONS.

ONIONS that were sown early in the season, and are now growing in pots, should have abundance of air, so that they may be quite hardened off before they are planted in the open garden. The soil, having been prepared some time ago, will only require stirring with a fork, and, when dry enough, may be trodden uniformly and raked as if for drawing drills. The plants may be put out in rows 18 inches apart and 9 inches from plant to plant, choosing a mild, damp day for the purpose. Place a stick to each plant to avoid injury by rough wind.

CELERY

plants in pots should not be allowed to become drawn through insufficient air or overcrowding, and care must be taken that they do not suffer from want of water at the root, or disappointment is sure to follow. Place out later-sown plants in cold frames, and make a sowing for the main-crop in a cool frame, after which a small sowing may be made in the open to produce plants for use in the spring when Celery is generally used for soup. A good sowing of

FRENCH BEANS

should be made without delay, choosing a south border or other warm situation for the purpose. The best way for early sowings of this important crop is to draw drills 4 inches deep and 18 inches apart, half filling the drills with old potting soil, afterwards planting the Beans and covering with the same soil. This method will ensure speedy germination and free growth, and will amply repay the cultivator for the extra labour of planting at this early date. Osborn's Forcing, Magnum Bonum, and Canadian Wonder are good varieties for planting now. A few rows of Golden Waxpod or dwarf Butter Bean may also be sown in the same way, and all should be thinned to 6 inches or 8 inches apart, for nothing is gained by crowding too many plants into a row. Vegetable Marrow seeds should be sown singly in pots and placed in a close frame for planting out at the end of May, but where early supplies are desired a few seeds may be sown in a frame, where the plants can be allowed to grow until they have reached the height of the pit, when, if all danger of frost is past, the sashes may be removed and the plants allowed to run. In this way Marrows may be cut greatly in advance of those grown in the ordinary way.

CARROTS

sown early in the year on beds of leaves will require liberal airing to keep them from drawing, and succession crops in cold pits must be carefully thinned to 3 inches apart; frequent waterings of soft water and an occasional dusting with soot will be all they require until fit for use. Lettuce intended to stand in frames until ready for use should have the sashes removed each morning and replaced again at night. Abundance of water must be given to keep them growing freely; the slightest check from want of moisture may end in the plants running to seed before they are large enough to cut for salad. JOHN DUNN.

Royal Kitchen Gardens, Windsor.

THE FRUIT GARDEN.

FIGS UNDER GLASS.

THE earliest trees have done remarkably well this season, and will now be clear of fruit if such kinds as St. John's and Pingo de Mel are grown for the first crop. Other kinds, such as Brown Turkey and White Marseilles, are less reliable than the earlier kinds named for hard forcing, but they are more valuable, as they carry two crops. With the St. John's it is not desirable to attempt double cropping. This variety should now be placed in a somewhat lower temperature to thoroughly harden

the wood, though it is advisable to continue syringing overhead as long as possible, indeed, we damp our pot trees overhead when in their summer quarters in the open after a hot day. This greatly helps to keep the foliage healthy. After the crop is cleared and the trees have been some days in the cooler house named, it will be a good time to give the earliest forced ones a move; potted now they may be placed in the open at the end of June or early in July. In potting, use good loam with a liberal addition of old mortar rubble or wood ashes, but in light soils less of the latter are required, but firm potting is essential in all cases. Young trees for future forcing should be kept closely pinched, and if a clear stem can be obtained so much the better, as the plants are much addicted to sucker growth from the base.

PLANTED OUT TREES

for succession crops will now require close attention in stopping and training; as regards the former, there is always a tendency with healthy trees to produce wood freely, and by stopping fruiting wood at the fourth or fifth joint and rubbing off small spray growths there will be more room for the fruit to swell freely. Now is a good time to give stimulants. I am much in favour of food given in a liquid state to trees bearing heavy crops. Rather mulch with short rich manure, but with trees at all inclined to grossness or to cast their fruits moulding is not advised. In training in new wood avoid crowding, as there is nothing gained whatever by laying in wood too freely. Thinning the fruits should not be overlooked, and to advise how much fruit a tree can carry is somewhat difficult, as much depends upon the health of the trees and the variety, but it is usually safe to allow strong shoots to carry three or four fruits. Do not give too much fire heat, far better results are secured by slow forcing, and this specially applies to the night temperature. This with Figs growing freely should not exceed 65°, even less will suffice in cold windy weather. As the fruits approach maturity less moisture should be given and overhead syringing cease. The later houses will now be starting freely without much fire heat, and the fruits from this section are most valuable, as their crops are ripe at a period when fruit is in great demand. The large black Figs, such as Nubian, Negro Largo, and Grosse Verte are among the best, if any of these are grown in pots for late autumn supplies. The plants should be housed in as cool a place as possible—a north house is desirable. G. WYTHES.

Syon House Gardens, Brentford.

INDOOR GARDEN.

CYCLAMEN.

AUTUMN-SOWN stock at present in 2½-inch and 3-inch pots will be in a fit state to be repotted into those pots in which it is intended to flower them, and I find that 4½-inch pots are the most serviceable. So much is expected of these plants and all other plants which flower in winter that the greatest care should be bestowed on their culture. Though generally seen in a more less unsatisfactory state, this is no fault of the subject, as it is one of the most accommodating and responsive plants with which we have to deal. New or absolutely clean pots must be used, and, if the latter, they should have been exposed to the air for some time before being used. Abundant drainage is also an essential, and must not be overlooked. Loam of a tough, fibrous character should form the basis of the potting compost—if, however, of a stiff, retentive character, then I advise the use of a portion of peat—a little leaf-soil, sand, and a sprinkling of finely broken charcoal, and to each barrowful of this mixture add a 7-inch potful of dissolved bones or Thomson's manure, preferably the latter, and a similar quantity of Clay's fertiliser. Moderately firm potting should be practised, only bringing the soil to a level with the existing ball. If a position cannot be spared in a house, then place the plants in a pit. It is better if this is slightly warmed, as a good start makes a material difference at this stage. A bed of sifted ashes makes a good surface on which to stand the pots; spray the plants over with the syringe fre-



A GROUP OF FLAG IRISES BY EDGE OF WOODLAND.

quently, but water at the root must be withheld for a few days. A slight shading from bright sun must at present be afforded, and the plants kept absolutely free from green fly, their common enemy.

ZONAL PELARGONIUMS.

These, like the foregoing, are much depended on for the supply of cut flowers in the autumn and early winter months, and should also have, not only now, but at all subsequent stages in their cultivation, the very best practical treatment. A moderately rich compost is here essential to encourage robust growth in the early summer, which, when duly exposed to our early autumn sun, undergoes the process of ripening, and the better this is done the more satisfactory will be the final result. Loam, broken somewhat roughly with the hand, will here likewise form the major part in the compost, while a portion of well rotted manure, a small quantity of leaf-soil, the amount to be regulated by the nature of the loam, as the leaf-soil and the sand which are put in are added as much to keep the whole in a sweet and porous condition as they are for sustenance. Firm potting must be practised, and the plants should never be given a too liberal supply of water, the object being at all times to build up a tough and firm growth. The double and semi-double forms are the best for this batch, the flowers remaining intact for a much longer time whether on the plant or in a cut state.

PRIMULAS.

Seed of the *sinensis*, *obconica*, and *stellata* types should now be sown if this has not already been done. Sow thinly in pans of fine soil, and cover to the depth of the seed, give water, and stand in a hotbed in a structure where the thermometer does not fall below 60°.

J. F. McLEOD.

Dover House Gardens, Roehampton.

FLAG IRISES.

AMONG the many delights of June, those that the Irises give us are among the greatest. Every year, as their blooming time comes round, one becomes more keenly appreciative of the many beauties of this grand garden flower. Several rather nearly allied species

have yielded a large number of beautiful garden varieties; indeed, to see them in bloom together in a nursery the beholder is almost bewildered by their number and by the consciousness that all are beautiful and desirable, while many of the unaltered species, such as *albicans*, *florentina*, *pallida*, and *flavescens* are among our best plants.

When they are used in bold groups, as in the illustration, it is well to choose those that have the good quality of retaining their foliage throughout the summer, a merit that belongs especially to the *pallida* section.

It is important to look out for the time, which, according to soil and other circumstances, will be at from three to six years from the date of planting, when these good things will be thankful for division and replanting. When they are left too long, and the rhizomes come to the surface and form a crowded mass, they cannot be expected to flower well. Sometimes one may see in a neglected garden such a patch 2 feet across, and necessarily almost flowerless.

MISCELLANEOUS.

A NEW FUMIGATOR.

ALL horticulturists are greatly indebted to Mr. G. H. Richards, of Southwark Street, S.E., for an improved system of destroying insect pests under glass, and I feel sure the editor of THE GARDEN will allow me to briefly describe the new fumigator referred to and its advantages. The introduction of the XL All vaporiser was a boon to horticulturists, and is now so well known that its merits need not be dwelt upon. Mr. Richards has now given us the new solid XL All compound, and, as its name implies, it is a solid, whereas the earlier introduction, that made fumigating so easy of accomplishment and quite an agreeable work, was a liquid. Few young gardeners of the present day can have any idea of the discomforts one once had to

undergo in fumigating a house. What a lot of damage, too, has been caused by the old methods, to say nothing of the discomfort to the worker. The new invention is even more remarkable than the liquid XL All compound, and certainly has advantages over the latter. With liquid of any kind stored in bottles there is, of course, always risk of breakage; the weight and therefore cost of carriage is increased. Mr. Richards' new compound is in the form of a dry cake, not larger than a penny piece, and about three times as thick, the weight of one cake being under an ounce, yet this small cake is sufficient to fumigate 1,000 cubic feet of space. Thus a small tin box containing twenty cakes holds sufficient of the compound to fumigate 20,000 feet of cubic space. Each cake is encased in a strong card box to prevent breakage. The cakes are so light that the cost of carriage is reduced to a minimum, they take up little storage room, there is no risk of waste from breakages, and it is an easy matter to send by post sufficient material to fumigate a number of houses. The new compound is, moreover, so cleanly that anyone can handle the dry cakes and not even soil their hands; such are a few advantages the compound XL All has over the liquid form.

A word as to its fumigating properties: it is equally effective as the older liquid compound and equally harmless to plant life. The dry cakes have been given a thorough trial in fruit houses, with Peaches and Nectarines in a small state, in vineries where the fruits were only recently set, and in plant houses, even with plants in bloom, and not the slightest harm has been done. Some care is necessary with tender growths, such as new Fern fronds, but with hardier subjects, such as Carnations, the compound is a splendid fumigator. The cakes are placed over the lamp in the same way as is the liquid. After a thorough trial of the new compound I find it as perfectly safe and effective as the liquid, and at the same time the cost is most reasonable.

G. WYTHES.

THE ROYAL HORTICULTURAL SOCIETY AND ITS CENTENARY.

SPECIAL GENERAL MEETING.

THIS was probably the largest and most representative Fellows' meeting ever held at any time. It was in the large canteen of the Drill Hall, and some 300 persons, including numerous ladies, were present; as the time passed the room became exceedingly hot. After the reading of the notice convening the meeting and calling over the names of some 144 new Fellows by the secretary,

Sir Trevor Lawrence, who presided, said that in the first place he wished to remove a misapprehension that he was opposed to both a garden and a hall for the society. That was not so. Really he preferred securing a hall as a means of celebrating the society's centenary to anything else. Both he and the council had done all that was possible to find such a site, but without success, for sites were enormously costly. With reference to the subject before the meeting, he knew that in so large a gathering agreement was not possible, but in differing he hoped they would differ amicably. He felt that the council were bound by the resolution passed in February last to look out for a garden, and upon that mandate the council had been acting. With respect to the proposed site for a garden at South Darenth, he had not seen it, and would leave the description of it to others who

had, but he might say that in relation to its acquisition the council were practically unanimous. He therefore called upon Mr. H. J. Veitch to furnish the needful detail, and to move a resolution.

This Mr. Veitch did in a very lucid and interesting speech, in which he pointed out all the diverse features of the proposed garden site of 42 acres. He had been identified with the sites committee from the first, and had seen every site that was offered. He asked whether anyone thought that Chiswick as it was now was a proper garden for such a great society as theirs to possess. Its environments were so bad that it was impossible for anything to be done there satisfactorily. They had but 12 acres of ground there, and of these, buildings, roads, &c., occupied a considerable portion, so that what ground was left was entirely inadequate for the work the society undertook, and was unfit as a gardening school for students. The site proposed for the new garden offered ample scope for the carrying out of great experimental and practical work in all phases of gardening, and it was found in relation to sites that in no case was it possible to find one reasonably priced at less than twenty miles from London. Having read the original advertisement inserted in various papers for land, Mr. Veitch touched upon the numerous sites offered, and said that finally the one under notice was the best of all. He showed how, by planting belts of trees, shelter might be furnished, how portions might be planted diversely, and buildings re-erected. He considered the price of the land—£80 per acre—as that of good agricultural land, and that it was cheap, and concluded by moving a resolution authorising the council to purchase the land.

This was seconded by Mr. C. E. Shea, who at the outset referred to the question of a hall, which he said could not be erected without violating the charter. A hall would cost at least £50,000, and before it was ready for occupation would reach double that sum. With reference to the pecuniary position of the society, he said that in 1892 there was nothing in hand, but from that time there had been gradual growth, until now there was in hand the large sum of £10,237. Amidst much interruption he dealt with some points in Mr. A. W. Sutton's recently published letter. Mr. Sutton followed, moving an amendment to the effect that the proposed site be not purchased as a means of celebrating the society's centenary. He described the nature of his own action with respect to the site offered at Reading, then argued strongly in favour of a hall as a place for the society's meetings and shows. Dr. M. T. Masters seconded the amendment, reading some letters he had received, one especially from Sir W. T. Dyer, of which Mr. H. J. Elwes later said that it was the most complete exposition of the impropriety of the council's proposals he had read, and merited the fullest consideration. He, too, warmly opposed the resolution, and gave the amendment his entire support. So also did Mr. Romien, who said he had known the proposed site from boyhood, and regarded it as singularly unsuitable for the purpose named.

The Rev. G. Engleheart followed, strongly deprecating the proposal, and speaking especially in favour of a hall being provided. He had grave doubts as to any hindrance to that matter existing in the charter. As to the need for a garden, he felt that private gardens all over the kingdom were doing the society's work. Mr. Percy Waterer, of Fawkham, was strong in his support of the council's proposal, which Mr. N. N. Sherwood as persistently combated. It was at this point, when reference was made by him as to the large sum once promised towards the erection of a hall, that Mr. Elwes offered £1,000 for that object now, and was followed by a similar offer from Mr. Martin, John Sutton on behalf of his firm, and still further came a similar offer from Mr. Sherwood.

The president then replied on the whole discussion, and at once put the amendment to the council's resolution first. For this three-fourths of those present voted, and against but one-fourth. A demand for a poll of the Fellows was then read on behalf of the council. After strong appeals were made by Mr. Sutton and Mr. Elwes, this

demand was gracefully withdrawn, and the meeting closed with a cordial vote of thanks to Sir Trevor Lawrence for his admirable conduct in the chair.

NOTES FROM SCOTLAND.

SCARCITY OF YOUNG GARDENERS.

THERE has continued since last year a great scarcity of young gardeners, causing not a little trouble to those having vacancies to fill. It is, however, only the younger members of the craft that have been difficult to procure, there being no serious want of foremen and plenty of head gardeners. This long-continued lack of men has resulted in a rise of wages, not general, however, but the refusal to accept the lower rates of pay in small places is causing an increase of wages in these, which will be sure to be followed by the larger gardens. It would seem that a reduction in the number of apprentices kept in the north of Scotland is largely the reason for this economic disturbance, and the introduction of more labourers into gardens is apparently the only remedy.

"TWELVE TO THE DOZEN."

There has been a slight convulsion in the capital over the question whether in the future market gardeners shall supply greengrocers with vegetables which are sold by count at the even dozen, or, as has been customary in the past, at fourteen to the dozen. The retail merchants do not accept the new conditions with a very good grace, but vegetables are somewhat scarce this year, and those who prefer not to give in to the new rule are said to be obliged to pay extra for the two they will not let go. At one time nurserymen sold their stock in the same way, by the "big" hundred, and farmers still purchase Cabbage plants thus, but modern methods of "cutting down" prices prove too much for old customs. There was a desire at this time, too, to alter the practice of selling soft fruit by measure, the Scotch pint and the English being in the ratio of almost one of the former to two of the latter, and instituting instead a general rule to sell only by weight, as the fruit growers feel the existing arrangement somewhat of a hardship. But at present there seems to be no likelihood of a change in this direction.

WOMEN GARDENERS.

A fact perhaps worth mentioning is the disappearance of women from many Scottish gardens, and this has occurred almost simultaneously with the enforced reduction of expenses, the obvious explanation being that gardeners have found it cheaper to dispense with women at a small wage rather than men at nearly double. There is no gainsaying the fact that women require a deal more supervision than men, but the serious part of the subject is the lack of knowledge displayed in treating of commercial gardening into which by the aid of alluring figures the young Scotswoman is requested to plunge. It is an open secret that the great fall in prices during the past four years has made it in many cases with market gardeners a struggle for bare existence. One of the largest growers, who keeps himself abreast of the demands of the day and in touch with the markets in Scotland and the north of England, assures me he cannot secure a fair percentage on his capital. Another in a small way, who supplies a limited number of good customers, in 1899 found his receipts just half those of the previous year, and that without any diminution of expenses.

THE MALMAISON CARNATION.

Referring to a remark as to where and when this distinct Carnation originated, I believe there is nothing certainly known, assuredly nothing to connect it with Napoleon's Empress. In its habit of growth, broad curled foliage and large blooms, it seems to have had a counterpart as early or earlier than the time of Parkinson. It also possesses points characteristic of the "burstlers," so popular 200 years ago. The original blush form would seem to have first appeared in Scotland late in the fifties, and in the succeeding decade I have seen it treated as an exhibition plant with its

shoots tied to a large balloon trellis. In 1873 a notice of the pink variety appeared in the *Gardener*. It was obtained as a sport just previous to that date in a garden near Musselburgh—Pinkie, I think—and was secured by Mr. Young, long well known in connection with the Royal Caledonian Horticultural Society. The striped form named Lady Middleton by Messrs. Methuen and Sons, Edinburgh, who sent it out, was obtained, also as a sport in the gardens of Luffness, East Lothian. This form is still very scarce, being difficult to preserve in health on account of its peculiarly fatal tendency to contract disease. There is no great difficulty in securing a succession of bloom during the whole of winter from the blush and pink forms, but the treatment is fatal to the health of the plants, and it is necessary to propagate from healthy plants that come into flower at the usual time. B.

GARDEN DESTROYERS.

INSECT PESTS.

LEAVES of some of our plants—for instance, those of the Marguerite Daisy, the Holly, Lilac, Laburnum, Celery, and others—are often injured and discoloured by grubs or caterpillars feeding inside them. The best way of preventing the attack from spreading or from recurring another year is to pick off and burn the affected leaves as soon as any injury is noticed. Marguerite Daisies, Cinerarias, or Chrysanthemums, when attacked in this way by the grubs of the Marguerite Daisy fly, should be held up before the light, when, on looking through the leaves, it is not difficult to see the grubs. A judicious pinch then soon settles the pests. When, however, a leaf is badly injured, cut off and burn it. There is a group of beetles commonly known as "weevils," which are most injurious to various plants. They may be known by their long snouts, or probosces, near the end of which is a pair of feelers, which are not straight, but have a regular elbow in them. Some of these weevils attack the leaves and shoots of plants in greenhouses, namely, the Black Vine weevil and the clay-coloured weevil, both of which are most injurious, for not only do they attack the foliage, &c., but their grubs feed on the roots of Ferns, Begonias, Primulas, Cyclamens, &c. There is no way of destroying the grubs except by picking them out from among the roots. The beetles hide during the day, only coming out to feed after it is dark. The best way to catch them is to place white sheets under the plants, and then late in the evening throw a bright light on them, when the weevils will be alarmed and will drop as if dead. If they do not, give the plant a good sharp shake, tying small bunches of dry moss or hay to the stems, so that the weevils can easily crawl into them to hide. These useful traps should be examined every morning. The Black Vine weevil is about three-eighths of an inch in length and is quite black, and the clay-coloured weevil is rather smaller and of a pale brown colour. These weevils are also injurious out of doors, but the damage they inflict then is not so apparent. The red-legged weevil is a rather larger insect than either of the above, and often does much mischief in gardens. It injures Raspberry canes by eating off the young shoots. They may be caught after dark by shaking the canes over an open umbrella or sheet. The Pea and Bean weevils injure the crops (particularly when they are quite young) by eating great notches in their leaves. They hide in cracks, &c., of the soil during the day, and so much resemble the colour of the soil that it is almost impossible to find them. Dusting the leaves with finely powdered lime or soot, or a mixture of gas-lime, soot, and lime, or spraying them with a solution of paraffin emulsion, is very useful. The powders should be applied when the leaves are wet, so that they may adhere better.

THE APPLE BLOSSOM WEEVIL.

sometimes entirely destroys crops of Apples and Pears. The females lay their eggs in the fruit-

buds just before they open, and the grubs feed on the opening blossoms, causing them to wither before the fruit is set. The weevils are little more than one-eighth of an inch in length. As soon as any are noticed on the trees they should be shaken off on sheets spread under the trees or on a light wooden frame with canvas stretched over it. Before the winter remove any stones, rubbish, &c. from under the trees, and scrape off all the rough projecting pieces of bark on the stems, and paint the stems and branches with a wash made of fresh lime, with a little paraffin oil added to it. The Nut weevil is the parent of the grubs so often found in Nuts; they are about five-eighths of an inch long from the tip of the snout to the end of the body. The female is able by the aid of her snout, or proboscis, which is nearly a quarter of an inch long and is very slender, to make a small hole in the Nut, into which she deposits an egg, which soon hatches. There is yet another injurious weevil, the Turnip gall weevil, which lays its eggs in Turnips, and the action of the grubs feeding causes the small knobs or wens with which Turnips are often covered. Perhaps the most injurious family of insects to plants is that of

THE APHIDES,

belonging to which there is a great number of species, of which the common green-fly is the best known and most dreaded. Few plants in our gardens entirely escape the attentions of some member of this family. Besides those that attack the leaves and shoots, one or two species feed on the roots of plants. These, like all other root-feeding pests, are difficult to deal with, for their presence at the roots is not known until the victim begins to flag, and then it may be too late to save the plant. There is, however, one sign by which they may be sometimes detected. If ants form their nests at the roots of a plant, one may rest assured that the latter is infested by one of these root-feeding aphides, for the ants are very fond of the sweet secretions of these insects, and find them useful to have them in their nests. When a plant is infested by these insects, the only way is to take it up, cleanse the roots thoroughly, and pour boiling water into the hole formed by its removal, so as to kill any of the insects that may be in the soil. The aphides which, like the green-fly, feed on the shoots or leaves, may be killed with paraffin emulsion, "anti-pest," quassia, and soft soap wash by spraying or dipping the shoots into one of these mixtures. As soon as an aphid is seen on a plant some means should be at once taken to thoroughly cleanse it. The delay of a few days may render the task far more difficult. When plants grown under glass are attacked, fumigate the house or frame with tobacco, or vaporise tobacco water in them twice, with an interval of two or three days. When Apple trees are infested with the American blight or woolly aphid, the affected parts should be scrubbed with a stiffish brush dipped in one of the above-mentioned mixtures, which should be well worked into all the cracks and crevices of the bark. In the winter they should be sprayed with a caustic alkali wash. (See "Insecticides" last week.)

SCALE INSECTS

are closely allied to the aphides. When they infest plants in greenhouses, wipe them off the leaves with a sponge dipped in soft soap and water. Spraying the plants with paraffin emulsion first would assist the operation. When fruit trees are infested by these insects, they should be sprayed in the winter with a caustic alkali wash. (See "Insecticides.") Mealy bug, which belongs to the same family, should be removed from the plants with a small, stiffish brush dipped in soap and water,

or they may be killed by thoroughly wetting them with methylated spirit of wine applied with a camel's-hair brush. Water thrown on them in a strong stream dislodges them, and is very useful. Not only should the insects be cleared away, but all the cottony matter that is round them, as it generally contains eggs. Plants attacked by thrips should be treated in the same way as if they were infested by green-fly, care being taken to apply the insecticide to the under sides of the leaves, where the insects congregate. The Asparagus beetle is sometimes a great plague in gardens. When the grubs are found attacking the "grass," some may be shaken off with the beetles into an open umbrella, or any of the shoots much infested should be cut and burnt. When cutting of Asparagus ceases, spray the grass with paraffin emulsion or Paris green. Some mites are very injurious in gardens, particularly the red spider. It appears that they usually attack plants that are too dry at the roots. These mites are very small and spin a fine web on the under sides of the leaves. The best remedies are spraying with paraffin emulsion, to which add 1oz. of sulphide of potassium to every five gallons of the wash, or 1lb. of flowers of sulphur, 2lbs. of fresh lime. Boil in four gallons of water, then add 1½ lbs. of soft soap. Mix thoroughly and add four gallons of water. As these mixtures will not kill the eggs, apply three times, with an interval of three days between each. Another troublesome mite is the Currant mite, which infests the buds of Black Currants and prevents them from becoming leaves. The best remedy is to pick off the infected buds, or cut away the shoots and burn them.

WOODLICE, OR "SLATERS"

as they are sometimes called, are often very troublesome pests. Strange to say, they are more nearly allied to the lobsters and shrimps than to insects, as they belong to the class Crustaceæ, and not to Insecta. These creatures are fortunately easily trapped, for their skins are so hard that no application of any insecticide is of any use. They may easily be killed when they congregate, as they often will, particularly in Mushroom pits, &c., at the base of a wall between it and the earth, by pouring boiling water over them. Trap them by laying tiles, bricks, slates, or pieces of board near any plants that they are attacking, as they are fond of hiding under such things during the day. In greenhouses where plants in pots are attacked, Potatoes cut in half and slightly scooped out and

laid on the earth in the pots, so that they may creep under them, make very useful traps. Small garden pots laid on their sides and half filled with dry moss or horse manure are also good. One part of Steiner's vermin paste, mixed with three parts of barley meal placed on small pieces of card, slate, &c., near their haunts is said to destroy them.

G. S. SAUNDERS.

Sir William Crookes has made the discovery of the possibility of extracting nitrogen from the air, and making use of it as a land fertiliser. Unlimited nitrogen would increase our crops enormously, and Sir William Crookes proposes to supply it from the atmosphere and apply it scientifically as an artificial crop grower.

Mr. Peter Barr in Tasmania.—Speaking of Tasmania, Mr. Barr, from personal benefit derived, speaks in glowing terms of the climate. New Zealand, despite its reputation, is, in Mr. Barr's opinion, not to be compared, and Tasmania must, he predicts, become the recognised sanatorium of Australia. With the scenery he is charmed. Since leaving Launceston Mr. Barr has toured the West Coast, visiting all the principal mines, and also the East and North-East Coast. He is impressed with the colony's vast mineral resources.

New Park for Ealing.—Lord George Hamilton, Secretary of State for India, has accepted the invitation of the Ealing Urban District Council to perform the ceremony of declaring the Walpole Park open on May 1. The park, which is about 30 acres in extent, has been acquired by the District Council from Sir Spencer Walpole for the sum of £40,000. It was formerly for many years the residence of the late Right Hon. Sir S. H. Walpole, who died there in 1898. The park is well wooded, and it is intended, as far as possible, to retain it in its present form.

Messrs. Veitch's Hippeastrums.—In a note last week we gave a detailed description of some of Messrs. Veitch's Hippeastrums (Amaryllis), that are now at their best in the Royal Exotic Nurseries, King's Road, Chelsea. We are now able to give an illustration of one end of the house wherein they are grouped, which will give some idea of the great variety of colour that exists amongst them, although the innumerable lovely shades cannot be adequately made apparent.

The fruit committee and certifying old varieties.—At a meeting of the



HIPPEASTRUMS (AMARYLLIS) IN MESSRS. VEITCH'S NURSERY AT CHELSEA.

committee on April 9, Mr. J. Wright proposed an award of merit for Pear Bergamotte d'Esperen, but this award the council refused to sanction. Some discussion ensued about the matter at the committee meeting on Tuesday last, as the committee felt that their judgment had been seriously questioned, so much so that we have received a lengthy printed account of the proceedings, which we are unable to publish through pressure upon our space. But the following note, read by the chairman of the fruit committee on Tuesday last, will, we think, satisfactorily settle all differences of opinion. At the same time, as we have before expressed, fruits we enjoyed in our boyhood days should never receive the official recognition of a certificate or award. We have always considered that awards of merit and first-class certificates were only for *new* or *rare* things. Bergamotte d'Esperen Pear is neither one nor the other. "I am desired by the council to inform you that they have left the confirmation of the award of merit recommended by this committee at the last meeting to Bergamotte d'Esperen Pear in abeyance, as they would like the committee to have the experience of another season, the past one having been in their opinion an exceptionally favourable one for many late Pears, not ordinarily of first-rate merit. The council do not think that any real injustice will be done to Bergamotte d'Esperen even if it proves itself to be all that the committee considered it on April 9, as, having been in cultivation for quite sixty years without obtaining any award, it can afford to wait and approve itself in at least two consecutive seasons. The council are happy in being able to approve and confirm the recommendations of the committee in ninety-nine out of a hundred cases, and they trust that the committee will not feel hurt by their exercising what seems to them only a wise caution in the present *exceptional* instance."

Erythronium Howellii.—This fine Erythronium has been nicely in bloom in my garden, where its large and beautiful flowers have been very attractive. They are of large size for those of an Erythronium, and are of a pretty creamy white, with a broad zone of yellow at the base of the segments. The leaves are veined with white, although not so conspicuously as are some of the other Dog's Tooth Violets. It is a native of Southern Oregon, and is quite hardy in a rather light soil. I grow it in a sunny position, which I find suits the Dog's Tooth Violets better here than the half-shaded position they require in some gardens.—S. ARNOTT, *Carsethorn, by Dumfries.*

"IN A SMALL WAY."

NOTES FROM AN OBLONG GARDEN.—XIX.

The Oblong has had an epoch. Adam, who is as fond of his own fireside as a pussy-cat, actually went away for a week, and sundry nebulous projects, some old subjects of discussion, others so coldly received when hinted at that they had dropped into oblivion, at once took shape. The two lightest-footed jobbing gardeners available were summoned, the boy completely withdrawn from the onerous charge of the one small fat pony, which, when Adam is in authority, occupies the whole of his working day, and the play began. Our standing subject of dispute is the lawn—if a patch of grass this size can be so designated. Although grass calls for mowing, and is to that extent undesirable in Adam's eyes, it does not have exoteric necessities, as flower beds do, and, above all things, costs nothing when once established. On these facts the Master states his stand, and on the lawn it is. I, on the contrary, argue that anyone can grow grass, that there is grass to an extent calculated to satisfy its most greedy admirer in the fields beyond the garden, that it is sinful to sacrifice space to it that might be devoted to rare plants; and, finally, that in such small quantity, perpetually trafficked, it is not worth growing for its looks.

Neither of us has got so far as being convinced against our will, but nevertheless we are, or were when we parted, of the same opinion still, and the question was, How to get more flower room without touching Adam on his tenderest spot by encroaching on his green preserve?

The *mot de l'engue*, as now discovered, is simple and highly satisfactory—do away with a path. The amount of space devoted to ambulation was entirely out of proportion, there was a broad walk running all round it, and only at the top and bottom of the Oblong had I reduced the painful number of parallel lines by spreading the beds out a little in curves over the gravel, from which they are divided by a rough stone boundary edge. Now I have done away with the path down one side, and brought the grass up to the edge of the long sunny bed under the south wall, thereby propitiating the grass lover by some increase of his speciality, and at the same time giving myself room to enlarge a narrow strip of bed I had insinuated into the side of the original lawn to a quadruple size, while I shall just slightly discount the grass concession by planting in it a Camellia or two and the Cordyline australis which I have had for the past three years in the greenhouse. Its annual repotting has become more and more laborious as its feet grow bigger, and it is such a healthy gay thing, perfectly unmoved by all the damps and draughts and mildews of two little tiny dark greenhouses in succession, that I am sure it will flourish out of doors. Many as are its faults, the little there is of it being the biggest, I must give the Oblong the credit of seeming, as it is, a regular sun-trap. These days, when rolling dust whirls abroad on the bluster of the hateful east wind, there is peace and comfort to be found in the Oblong, sheltered from the evil quarter, and full of sun for every instant that he shines. Later in the year we shall not feel so grateful for his constant presence, and no doubt I shall say again, as I have said before, when the grass was all brown, the soft water done, the hose burst, and the boy mutinous, "We had much better root up everything and go in for show Portulacas!"

However, to return to the epoch. It has resulted in (1) the obliteration of one side path, (2) the reducing of the other by a bank of the stones and gravel mixed with earth which formed the foundation of No. 1 path, and is now to constitute a species of low "dry wall" to be sown with all manner of Cresses, Snapdragons, Linarias in variety, Poppies, Pinks, and Mesembryanthemums, and (3) the formation of a second new bed under the greenhouse wall by the removal of the cold frame to a sunnier and warmer spot at the Oblong's end. I think all these changes are decided improvements. The frame in the original site was too damp and chilly and far too much beloved of slugs, but the rockery bed I have made in its place ought to suit hardy Primulas as well as the little piece of rockwork adjoining, built up round the two Water Lily tubs, does. A good deal of sun really reaches this part of the garden (on the other side of the house from the Oblong proper), as it does the little greenhouse, but it is what north country folk call a "rafty" corner, blown upon by many winds, and the warmth seems to fade out of it the moment the sun goes. The extension of lawn, two patches each about 20 feet by 6 feet, has been obtained by sowing. I thought this more likely to succeed than turfing at the present time, for, in the first place, turves cut and transplanted in a bitterly cold east wind of the kind that shrivels whatever it touches, seemed to have fate somewhat against them; secondly, it is difficult to get really good close fine turf; and,

thirdly, sowing was a much less expensive plan. The two patches consumed 4lbs. of grass seed at 1s. per lb., whereas turves would have cost about 8d. or 9d. per run of 36 inches by 12 inches, and would probably have required watering more or less through the summer. Sparrows, of course, were an anxiety, and before the seed had been an hour sown they were down in flocks, despite the cranks who declare that from one end of its breeding season to the other the innocent bird touches nothing but insects (hereabouts its breeding season lasts from a fairly mild February to October), but twigs and black cotton finally routed the enemy. I am feeling a little less pleasantly disposed towards the sparrow pest just now even than usual, having had a succession of tastes of their quality lately. Item, half the yellow Crocuses laid out in rags; item, a few of the Carnations which had been overlooked in the general black cottoning pecked to stumps on every shoot; item, the pretty blue tits that gem our Apple trees chased away with all manner of bad language and spite; item, a horrible lumpish mass of untidy frowsy nest, ten times replaced behind the venetian window shutter of my bedroom, sometimes back again in two hours after I had poked it all out. I want a sparrow trap, but baleful as the wretches are I could not kill them in cold blood. We have neither cats nor owls on the premises—not even a snake—and what could I do with the hundreds I should undoubtedly capture? With all their impudent forwardness they are truly stupid birds, as evidenced by their coarse feet and beaks, sure signs of a low order of intellect. Robin kicks up his tail and dives under the black cotton wherever he sees occasion to walk on the newly sown earth; even the big blackbird can by walking short move about as it pleases there; thank goodness the silly ill-tempered sparrow is flabbergasted when it feels the obstacle it seems unable to see.

Bathwick Hill, Bath.

M. L. W.

OBITUARY.

MR. D. T. FISH.

We heard with regret at the time of going to press of the death of Mr. D. T. Fish, one of the most famous gardeners of his age, who spent a long and busy life at Hardwicke, and returned from there to devote himself with greater energy to lecturing and contributing to the Press. He was a man of extreme vigour, kindly, bluff, and for many years has contributed to THE GARDEN some of its best and most carefully thought-out articles. Mr. Fish will be remembered for his association with co-operative gardening, the "One and All Flower Show at the Crystal Palace," and his keen interest in allotments and cottage plots. We lose a clever writer, a vigorous, outspoken, and honourable gardener, and a warm friend. He edited Cassell's "Popular Gardening" with great success, and was associated in other good endeavours to spread abroad a love for flowers and for horticulture in its broadest sense. His son, Mr. D. S. Fish, who also contributes to THE GARDEN, writes us thus:—"My father passed away peacefully on Tuesday at his Edinburgh home."

GARDENING APPOINTMENTS.

MR. L. BAYLEY, for the past seven years fruit foreman at Eaton Hall, has been appointed head gardener to Lord Hindlip, Hindlip Hall.

MR. H. TAYLOR, for upwards of eleven years head gardener to Lord Kenyon, Tredington, Whitchurch, Salop, has been appointed head gardener to Lord Hatherton, Teddesley Park, Penkridge, Staffs.

MR. CLEMENT HOWES, for several years past foreman in the gardens at Gunton Park, Norfolk, has been appointed head gardener to the Marquis of Waterford, Curraghmore, Portlaw, County Waterford, Ireland.

THE GARDEN.

No. 1537.—VOL. LIX.]

[MAY 4, 1901.]

FRAGRANT FLOWERS OF EARLY SUMMER.

WITH the earliest sun-warmth beaming on opening flowers in April, and when the wind is out of the north and east, still more in such a week of unusual warmth as we had in the third week of April, one becomes every year more sensible of the delight of the fresh sweet smells of sun-warmed earth and quick growing vegetation. In a garden that adjoins woodland that is on poor sandy soil this is all the more noticeable, because of the surprising fragrance of some of the unfolding leaves—of Birch and Larch and Whortleberry—a mysterious and delightful scent, recalling the dainty pungency of Lily of the Valley and the wholesome balsam of the dying Strawberry leaf. But many gardens have not the advantage of the near neighbourhood of scented woodland, and their owners will do well to think what sweet things they can provide and plant, bearing in mind how pleasant it is to have the sweet scents near the house, so that they will be wafted into rooms through open windows. For this there will be Wallflowers in plenty, the best of things for giving off their delicious odour. For our southern counties there is the neat wall shrub *Azara microphylla*, generous of the vanilla scent of its small greenish yellow bloom, soon to be followed by *Daphne pontica*, whose fragrance carries far and wide.

The young leaves of Sweetbriar are one of the best sweets of April, and *Magnolia stellata*, a sheet of white bloom of the same date, fills the air with a faint perfume. If Primrose or Cowslip banks and borders are near a house their neighbourhood will make itself pleasantly perceptible.

The flowers and foliage named are only a small number among the early things of sweet scent, but they are those that give it off most generously, and are therefore the ones most precious for planting near our dwellings.

Later in the year the plants that are among the best for giving off sweetness are *Mignonette* and the annual night-scented stock (*Matthiola bicornis*), the latter best by less important path edges, for the plant has no beauty in day time, though it is well to have a little of it half hidden among other things in the best borders, and especially under sitting room windows.

It would be delightful to have a whole border of night-blooming scented things for the enjoyment of summer evenings, and to plant it with

Nicotiana affinis, *Oenothera lamarckiana*, and this sweet little *Matthiola*.

So few plants give off sweet scents in winter that this excellent quality in some of the *Cistus*es should not be overlooked. *C. laurifolius* and *C. cyprius*, in any moist days of winter when the wind is out of the cold quarters, give off powerful whiffs of their delicious incense-like smell, adding much to the interest of the garden at the time when there are scarcely any flowers.

THE ROYAL HORTICULTURAL SOCIETY AND ITS RECENT MEETING.

MANY of your readers will regret with myself that you should have characterised the debate of April 23 as evidencing "an objectionable hostility . . . born of an unwarrantable distrust of the action of a council composed of English gentlemen." Such words are difficult to reconcile with your assertion that you "hold no brief for one side or the other."

It was the implicit trust given to the council which landed a large body—the majority as it seems—of the Fellows in the position of giving their seeming adherence to a scheme which they had never really considered. When they had properly considered it and understood its danger they again trusted the council to hear their representations and to stay its hand. The English Government is mainly composed of English gentlemen, but strong opposition to any measure of theirs which is reckoned unwise is not usually described as "unwarrantable distrust." It seems to me that the controversy about the "mandate" given to the council was somewhat beside the real issue. The fact to be faced was that a great majority of the Fellows who were really concerned about the question were against the scheme at the time of meeting. It matters little whether this was owing to their never having given the alleged mandate or to their desiring to rescind it. Let us say that they have come to a mature understanding of what they have unthinkingly assented to—fortunate is the individual and fortunate the society which knows the value of second thoughts and is not ashamed to avow them. For myself, as a supporter of the amendment, I own to having changed my views, largely from a consideration of Mr. Arthur Sutton's excellent letters. THE GARDEN will do better to attribute to us of the opposition the motives of love of our fine old society and anxiety for its welfare.

GEORGE ENGLEHEART.

[We willingly print Mr. Engleheart's letter. We desire at all times to avoid either using ourselves or printing from others any words that can possibly give pain, and regret that Mr. Engleheart should have considered the words he quotes as inapplicable to the situation. Careful readers of THE GARDEN must have become aware of the determination of those to whom the direction of the journal is confided, that no words of individual acrimony or personal bickering shall be permitted to appear in its pages, but they would be untrue to their trust were they to shrink from an honest effort to

describe the obvious feelings expressed by two clearly opposed parties in a discussion of the importance of that of the recent special general meeting of the Royal Horticultural Society, when words were spoken which, but for the influence of a wise and tactful chairman, might easily have led to unseemly strife. We are referring neither to Mr. Engleheart nor to the resolution of Mr. Arthur Sutton. As we have already said, we hope future meetings will be free from this too apparent and undesirable feeling. We know not what may be the next step, and await developments, but we devoutly hope the society will never be saddled with a big hall. This is an undertaking for a company or private enterprise. The hall, through the charter of the society, could not be let for dances, concerts, &c.—how reminiscent this is of South Kensington—and for a large part of the year must remain empty. It must be in the West End amid the residential population, not in the City, will be useless for a big summer show, inseparable from a place like the Inner Temple Gardens, and we are afraid also from the annual gatherings of the National Chrysanthemum Society, which is better off in its present quarters. The result of the hall will be a big building empty the best part of the year, and a "white elephant" sufficient to ruin absolutely a society far richer than the institution in which horticulturists are taking so vigorous an interest. We have received many letters about the meeting, but as they contain nothing different to what has been already expressed, we prefer to acknowledge them privately and fill our too limited space with articles and notes already becoming out of date through delays in publication. We can only repeat that ever since the beginning of these discussions there has evidently been a distrust of the council, an implied and even an outspoken opinion that they were attempting to acquire a new garden without the due knowledge or acquiescence of the Fellows.—EDS.]

SCHEME FOR A HORTICULTURAL HALL.

WHY NOT FORM A COMPANY?

A. B., Surrey, writes: "The vote taken at the recent special meeting of the Fellows of the Royal Horticultural Society, so strong in antagonism to the proposed garden, will doubtless be held by the council as conclusive, for some time at least, against the production of any new garden scheme, and of such proposal no more may be heard for a long time to come. But equally it may be regarded that the vote was distinctly in favour of the provision of a horticultural hall in London as the society's home and place of exhibition. That, however, would be presuming too much. No proposition in favour of the provision of a hall was made, and, indeed, no one could have voted in misapprehension, as such provision was not before the meeting. A few words which fell from one or two representatives of the council, however, showed plainly enough that the provision of a suitable hall and offices in London is a matter so great that the provision of a garden is to it in comparison an almost trifling one. The crowded state of the Drill Hall on that day showed that nothing would satisfy the requirements of the society's exhibitions and meetings that did not

furnish a space fully one-half at least larger than is the area of the Drill Hall. That would mean the provision of one of the largest halls in London. To leave the Drill Hall, unless driven away, for a hall of only the same size would be absurd. In addition to hall area, large committee rooms adjoining the hall are needed, in which the committees could sit and the afternoon lectures be given. Still, further, it would be essential that the society's offices be placed under the same roof. What, including a site in some readily accessible place, would be the cost of such a hall? Does anyone imagine that it could be erected at less cost than from £70,000 to £80,000? They must be deplorably ignorant of metropolitan conditions if they think differently. A hall of this nature on the ground floor and occupying the entire site could not be made to pay; indeed, must be to its promoters a heavy loss. To enable some return to be obtained it would be needful to have extensive cellars in the basement, and over that, on the ground line, shops or offices. The hall with society's offices would have to come over those, and space would have to be left beneath for two or three large hydraulic lifts to enable plants, &c., to be easily run up and down in unloading and loading. Storage room would be needed for tabling and chairs, for if the hall is to be let for concerts, meetings, &c., chairs in great quantity would have to be provided. It is so obvious that the Royal Horticultural Society, even were the conditions of its charter ever so unrestricted, cannot possibly undertake the provision of such a hall or home as is here described. It would be a mad act to embark in such a matter. The only hope lies or can lie in the formation of a horticultural hall company, with a capital of £100,000, and were such a company successfully floated, the hall might soon become a great fact. Why is not such a company started? It is far better to set about promoting such a company, and then to furnish the hall so strongly insisted upon, than it is to oppose all the council's projects without having any constructive proposals to replace them. Let those Fellows who insist upon the provision of the hall form the company, let shareholders be Fellows only. Then, and only then, will the thing be done. I enclose my card, but prefer to remain anonymous."

NOTES OF THE WEEK.

Royal Horticultural Society.—At a general meeting of the above society, held on Tuesday, April 23, 52 new Fellows were elected, making a total of 340 elected since the beginning of the present year, amongst them being the Duchess of Abercorn, Lady Henry Tate, Lady Helen Vincent, Lord Alverstone, the Bishop of Richmond, and the Right Hon. A. H. Smith-Barry. The next fruit and flower show of the society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, from 1 to 5 p.m. A lecture on

"Alpines and other Small Plants for Walls" will be given at 3 p.m., by Mr. E. H. Jenkins, F.R.H.S. Preceding the lecture, the president of the society, Sir Trevor Lawrence, Bart., will confer the Victoria Medal of Honour on the new recipients, Sir George King, K.C.E.I., Miss Ormerod, LL.D., Mr. George Norman, and Mr. James Sweet. The society will hold its fourteenth great annual flower show in the Inner Temple Gardens, Thames Embankment—by the kind permission of the treasurer and benchers—on the 22nd, 23rd, and 24th inst. Schedules may be obtained on application to the secretary, 117, Victoria Street, S.W., by enclosing a stamp.

One of the old school.—A long and honourable gardening career has terminated by the retirement of Mr. John Miller from Lord Foley's, Ruxley Gardens, where he has been chief for some seventeen years. Starting his career back in the thirties of last century, about the time of the accession of her late Majesty, Mr. Miller gained his experience in good gardens, and for the last half a century has filled responsible head appointments, among others at Workshop, Cuffnells, Clumber, and Ruxley. An able all round gardener, fruit was, perhaps, his principal forte, and from the days when he took valuable medals and other prizes for very high-class Peaches and Nectarines at the old botanic shows, down to quite recent meetings of the Royal Horticultural Society he was a prominent and successful exhibitor. His friends all wish him many pleasant years in his retirement.

Fire in a Derbyshire nursery.—We are sorry to learn that a fire broke out in the nursery of Messrs. Smith and Sons, Darley Dale, Derbyshire, and its origin is a complete mystery. We hope the damage inflicted is not so extensive as some reports would lead us to believe.

A new market.—The Portman Market, Church Street, Marylebone, was opened for business on Wednesday last. The market has nearly 200 stalls, eighty-five of which are reserved for fruits and vegetables.

Viola Bullion.—Two circular beds of this dwarf, compact free-blooming Viola—the bedding Viola *par excellence*—to be seen in the Botanical Gardens, Edgbaston, Birmingham, are now gay with yellow blossoms; they literally clothe the surface as with a yellow robe. Many other yellow Violas have been put into circulation of late years, and new varieties almost innumerable. I have tried many of them, but I have found among them nothing which can compare with this fine old Viola for hardihood, earliness, floriferousness, and continuity. The extent to which it is used in our public parks is one of the best tests of its usefulness and reliability. Violas come and Violas go, but some of the old varieties remain, and I generally find it is such which form the bulk of the stocks grown in nurseries I am in the habit of visiting.—R. D.

Snowdrops round a tree trunk.—The accompanying illustration needs no description. The photograph, kindly sent by Lady Binning, shows a charming use of the Snowdrop, and a pretty spring picture is the result of this wise planting.

The Bluebells at Kew.—Londoners who wish for a feast of Bluebells should visit Kew within the next few days. The flowers are opening in profusion, and will soon surface the woodland with colour. It is almost needless to say that the Daffodils and other spring flowers are in perfection and worth a long journey to see in their present beauty.

Prunus triloba fl.-pl.—This beautiful tree is now in full flower. We noticed a group of it on a lawn

at Kew, and thought how much is lost by not planting it in other positions than against a wall. It makes a good group; the leaves are fresh green in colour, and the flowers double, clear rose, and almost hide every vestige of growth. This Prunus is a native of China, grows to a height of 15 feet, and the flowers appear before the three-lobed leaves. Against a sunny wall it flowers abundantly.

High-priced Odontoglossums.—At the sale by Messrs. Protheroe and Morris, of the Walton Grange collection of Orchids, Stone, Staffordshire, two bulbs and one strong growth of Odontoglossum Rolfe hybrid fetched 210 guineas, while a plant of the beautiful variety of *O. crispum* the Earl realised 160 guineas.

Mistletoe at Oxford.—Mr. W. G. Baker writes as follows to the scientific committee of the Royal Horticultural Society with regard to this subject: "With reference to the Mistletoe in the Botanic Gardens, I cannot find it recorded when it was first introduced. The following list contains all the trees upon which it grows here:—*Vigorous*: *Crataegus Oxyacantha*, *C. O. var. rosea*, *Ostrya vulgaris*, *Aesculus (Pavia) flava*, *Cladrastis tinctoria*, *Common Lime*, and *Apple tree*. *Moderate*: *Crataegus odoratissima*, *Acer monspessulanum*, and *Juglans nigra*. *Weakly*: *Aesculus Hippocastanum*, *Pyrus Aria*, *Salix alba*, and *Fraxinus Ornus*. I have observed seeds germinate on the following trees, but have never got beyond that stage: *Fraxinus pubescens*, *Diospyros virginiana*, *Pyrus intermedia*, *Cerasus serotina*, *Gymnocladus canadensis*, *Ailantus glandulosa*, and *Corylus Colurna*." Mr. Burbidge, who has forwarded Mr. Baker's communication from Oxford, adds: "I have never seen it growing on the Beech or *Viburnum*, as stated in the *Gardeners' Chronicle*, page 193, of March 23 last."

Preparation of Woad.—An interesting paper was sent to the recent meeting of the Royal Horticultural Society by Dr. Plowright, with numerous specimens, showing the production of the blue colour derived from this plant. After alluding to several ancient writers, who described the colour as blue, green, and black, Dr. Plowright could find no recent information as to how the colour was extracted; as, though *Isatis tinctoria* is cultivated round Wisbech, where the manufactory still exists, it is no longer grown for the dye, but for a fermentable substance which renders true indigo (*Indigofera* sp.) "fast." After experimenting he found how all the colours, blues, greens, and blacks, could be obtained. Full details, with chemical analysis, &c., will appear in the *Journal of the Royal Horticultural Society*. Prof. Church remarked that Chinese indigo is said to be made from Woad, the "balls" of pounded leaves being extremely like those made in India from the sp. of *Indigofera*. He observed, also, that different qualities occur at different stages of growth. He added that the colouring matter is not only produced in the leaves (in the chlorophyll cells, according to Dr. Plowright), but also in the seeds. These contain two colouring matters—the true indigo and erythrophyll, the ordinary red colour of flowers, &c. The ripe fruits of the Woad plant sent by Dr. Plowright were deeply stained naturally, of a dark violet colour.

The old Pheasant-eye Narcissus.—The spell of exceptionally warm weather has brought the late-flowered *N. poeticus* on very fast, and just now (April 27) the spaces occupied by it are literally white sheets. It is undoubtedly one of the finest of all the family for naturalising so far as the amount of flower produced is concerned. I was looking over some clumps to-day that have been in their present quarters five years, and found many with nearly a score of expanded blooms. To secure this, however, the bulbs must be planted in a deep fairly good soil. Some idea of the wealth of bloom obtainable under favourable conditions from a limited area may be gathered from the fact that on one small plot of about 120 square feet there are just now close on 1,500 expanded flowers.—E. BURRELL, *Claremont, Surrey*.

Flowers in Park Lane, Hyde Park.—On the occasion of the funeral of the late Queen the beds in this vicinity were much



SNOWDROPS ROUND TREE TRUNK.

trampled by the enormous crowds, and this accounts for the display not being quite up to the high-water mark of excellence exhibited in previous years. Among Hyacinths worthy of mention are a pair of beds devoted to Grand Maitre, bright blue; Orondates, light blue; and Baron Van Thuyll, dark blue, fine spike. Charles Dickens is a splendid rose; Gertrude, carmine-rose, large spike. Of the reds, the old favourite Robert Steiger holds its own; Schiller is a good rosy carmine flower. In whites, La Franchise is a pure white, having large bells, and the same remarks apply to La Grandesse and alba superbissima. In miscellaneous beds, noteworthy are Jonquils, with a carpet of *Chionodoxa* and *Scilla sibirica*, the bold and well-known *Narcissus maximus*, having a carpet of *Scilla sibirica*, being effective. The Tulips are just coming on, but they have suffered very much in places. Amongst them may be mentioned *Gloria Solis*, red, with broad margin of golden-yellow; Murillo, bright rose, extra fine; Duchesse de Parma, crimson, deep yellow edge; Vermilion Brilliant, very fine, and of dazzling colour; Proserpine, rich rose; Queen of Violets, aptly named; Thomas Moore, bring orange; and Yellow Prince, bright citron. Later there will be a rich display (to take the place of the bulbous flowers) of Pansies, Violas, Primulas, &c., and to which we hope to draw attention in due course.—*Quo.*

Dutch Horticultural and Botanical Society.—At a committee meeting of this society, held on April 10, first-class certificates were awarded to Mr. P. W. Sutorius, of Baarn, for *Begonia Gloire de Lorraine*; to Mr. J. Van Stolk, jun., of Heemstede, for *Cypripedium insigne coloratum callosum*; to Mr. W. C. Baron Van Boetzelaa, of Maartensdijk, for *Lælia jongheana*; a silver-gilt medal to Mr. D. J. Tas, of Aalsmeer, for a collection of cut flowers; a silver medal to Mr. H. C. Hacke, of Baarn, for a collection of Orchids; bronze medals to Mr. H. Hornsveld, of Baarn, for a collection of *Odontoglossum Rossi majus*; to Mr. C. J. Kikkert, of Haarlem, for a collection of *Odontoglossums*; to Mr. H. C. Hacke, of Baarn, for a collection of warm house plants. Mr. H. C. Hacke, of Baarn, was honourably mentioned for *Clerodendron Thompsoni*. Mr. H. C. Zwart, of Amsterdam, the secretary, kindly sends this report.

Flowers in the Royal Botanical Gardens.—There was a pretty little spring show by the Royal Botanic Society last week, but owing to THE GARDEN going to press on Wednesday it could not be reported in our last issue. The show was made up chiefly of trade exhibits. Messrs. B. S. Williams and Son, of Upper Holloway, had a charming display of Orchids and Lilacs, while the Polyanthus from Mr. S. Mortimer, of Farnham, were delightful. Messrs. J. Carter and Co., High Holborn, showed a splendid mass of their fine strain of *Cinerarias*. A brilliant group was that from Messrs. R. and G. Cuthbert, Southgate, consisting of *Azalea mollis* in variety, Guelder Roses, Lilacs, and similar shrubs in flower. Messrs. Barr and Son, of Long Ditton, had Daffodils in Japanese bowls filled with cocoanut fibre. This is quite a successful way. Messrs. A. W. Young and Co., Stevenage, had designs in Roses, and very fine *Clivias* and *Cinerarias*. Messrs. R. and H. Bath, of Wisbech, showed a beautiful collection of Daffodils, and Messrs. Hogg and Robertson, Dublin, had the same flower and Tulips. Mr. Kelf, gardener to Miss Adamson, South Villa, Regent's Park, had a very fine display, comprising a group of miscellaneous plants, and Tulips and Hyacinths in pots.

Corydalis Scouleri.—A fine plant of this beautiful *Corydalis* is now (April 24) in flower here on a cool shady part of my rock garden. I first saw it at Kew about twelve months ago, where there was a fine plant in the rock garden. I experienced some difficulty in obtaining a plant as it is not generally listed; in fact, it is not mentioned in the majority of our leading nurserymen's lists. On enquiry from Mr. Irving I learn that it is a native of deep shady woods in North-West America, and is plentiful near the confluence of the Oregon River with the sea. Plants were

obtained at Kew from Canon Ellacombe, and from a continental nurseryman of the name of Meerbeck in 1895, so that it is of fairly recent introduction. I can certainly commend it to your readers as a plant well worth growing. It has a pleasing habit, and is quite distinct from any other member of the family which I have yet seen. It is, moreover, valuable for its early blooming—it was showing bud in the second week in March, and was quite uninjured by the severe frosts which we experienced at the latter end of that month. From Nicholson's "Dictionary" I gather that the name *Corydalis* is the old Greek name for the Fumitory, and is derived from the Greek *Korydalos*, a lark, because the spur of the flower resembles the spur of a lark. The flowers of *C. Scouleri* are shaped somewhat like those of a *Linaria*, and have long spurs which resemble those of an *Aquilegia*. The colour is extremely difficult to describe—a peculiar pinkish heliotrope tinged on the inside with blue seems to me to give the best description. The foliage rather resembles that of the common *C. bulbosa*, but is prettier, and the whole plant grows about 12 inches to 18 inches in height. Another member of this family I am growing for the first time, but which is not yet in bloom, is *C. capnoides*, which was very pretty at Bath Botanical Garden last summer. I should be grateful if any of your correspondents could tell me whether *C. Semenowii*, *C. ophiocarpa*, and *C. Sewerzowi* are worth growing, and if so where they may be obtained.—ARTHUR R. GOODWIN, *Kidderminster.*

Cinerarias at Farnham.—A more ideal spot for the successful production of seed and its thorough ripening could hardly be conceived than that enjoyed by the *Cinerarias*, *Primulas*, *Calceolarias*, &c., in Messrs. J. James and Son's nursery at Farnham Common. The glass houses are situated upon an open piece of land quite close to Burnham Beeches, so that they enjoy a maximum of fresh air and sunlight goes without saying. The strains of florists' flowers originating at Farnham have long been recognised as of the very best, and the selection and hybridising of existing kinds still goes on there, with the result that every year shows either an improvement upon existing strains or the production of something altogether new and distinct, or more likely than not both these ends are achieved. The variously coloured *Cinerarias* are kept separate from each other, for only by such means can distinct shades be retained. A house full of nothing but white-flowering *Cinerarias* is an unique sight. It is surprising how at first sight what appears to be a mass of exactly the same shade upon closer examination reveals a variety of tints. Some flowers are almost absolutely pure white, and others vary from this to a very pale sulphur. Extremely careful selection, indeed, is necessary to retain the pure white, and it has the disadvantage of being a shy seed bearer, thus rendering the matter all the more difficult. Amongst the blues there are now some lovely shades, and the crimsons are yearly becoming more intense in colour. A brave show is made by the hybrids obtained between the charming species of *Cineraria*, *C. cruenta*, *C. Heritieri*, &c., and the greenhouse varieties. That these will, to a great extent, supersede the latter for general decorative purposes can hardly be doubted, especially as their blooms range over such an extended field of colour, and in the near future the number of colours in which these hybrid *Cinerarias* will be obtainable will be still further increased. In a span-roofed house filled with these, Messrs. James have brought together plants that, while well retaining their loose habit and star-shaped flowers, yet comprise some lovely colours. In the cross hybridising of the small-flowered species with the large-flowered greenhouse kinds, there is a great tendency for the blooms to increase in size as they improve in colour, and Messrs. James, who have done much to improve the race that originated, we believe, by the intercrossing of *C. cruenta* with the dwarf varieties, are trying hard to obtain the desired colours without destroying the valuable characteristic habit of growth and form of colour. *C. cruenta* and the greenhouse *Cinerarias* cross easily enough, but with the other species primary cross fertilisation was

much more difficult, yet after persistent attempts Messrs. James succeeded; indeed, it is only by reason of persistent and continued effort that the James' strain of florists' flowers is at the present time so highly thought of.

A hall for horticulture.—Messrs. Cannell and Sons, of Swanley, send us the following: "Surely it is inspiring, and must bring a feeling of exalted pride to the heart of every one, when they see the exhibits of their countrymen standing boldly up and distancing foreign competitors, and to hear other countrymen exclaim, 'How perfect! What size!' It should be known that every variety of fruit, flowers, and vegetables of worth that can be found upon the earth is brought to England. In every instance the English grow them better than where they are indigenous after a work of ages in introducing. Of course the varieties are numerous, and it becomes a national necessity to weed out the inferior and to record the superior, and in this the Royal Horticultural Society has done an incalculable amount of good for the benefit of mankind. It is remarkable (and may be compared to the moral work and generosity of some, which is unrecognised during life) that scarcely any one knows its (the society's) worth, and those that do fail to appreciate the good. The English, by sheer intelligence, have considerably improved nearly every production for the sustenance and happiness of the public. These good kinds have gone forth to every part of the world, and if it were possible to sum up the good, it would be found that horticulture has done more to benefit the human race and make England eminent than any other profession, and, although much has been done to comfort and strengthen the body and cheer the heart of man, there is an endless amount still to do. His late Royal Highness Prince Albert certainly made sure that he had secured a noble home for the society, but it is at this moment, from no fault of theirs, without a floor or roof to call its own, yet now even, in lodgings as it were, the society is leading on horticulture and doing enormous good. Agriculture owes them a heavy debt of gratitude. When we read of a patriotic lady in Philadelphia, evidently an admirer, and anxious to forward horticulture in America, bequeathing £40,000 wherewith to build and maintain a hall of horticulture in that city, we feel it is retrogression on the part of the British in not possessing one long since to carry on one of the greatest sciences of the nation. There are many amongst our wealthy who in their time have enjoyed an immense amount of happiness, luxury, and contentment from their garden, who we believe will follow the noble example of this estimable and generous American lady, and immortalise their name by securing and presenting the freehold of a suitable site for that noble and most necessary institution, to hold their meetings, shelter their library and the council who so nobly carry on the work for the benefit and honour of dear old England. As far as the nursery and seed trade is concerned, they would, we believe, struggle with small sums to erect some temporary building, if only so that it could be utilised, the society could call it their own, and thus strengthen their hopes. There are plenty of central sites with dilapidated walls standing (almost a disgrace to the surroundings) which would answer admirably, and as soon as the freehold is secured we are ready to subscribe £25, and we are quite sure the hon. sec. (Rev. W. Wilks) would be delighted to hear of others doing likewise. We hope to live to see the day when we have a hall worthy of our great nation, and that the committee of the National Chrysanthemum Society, the members of which number well nigh 1,000, and whose work and exhibitions are of great importance, and stand pre-eminent with that flower, may be invited, and see their way also to hold their shows and meetings in this building, and all special societies, such as Roses, Dahlias, Auriculus, Carnations, &c., also Gardeners' Benevolent Society, Gardeners' Orphan Fund, and Gardeners' Provident Society—in fact, all societies pertaining to horticulture to have the same privilege, and thus avoid expensive hotels and other public resorts. This building we picture in our minds, and hope some day to see in reality."

TREES AND SHRUBS.

HARDY PLANTING FOR WINTER AND SUMMER EFFECT.

(Continued from page 278.)

HYPERICUMS.

HYPERICUM ANDROSÆMUM grows to the height of 2 feet 6 inches, and is sure to be appreciated. Its flowers appear profusely during summer, and are followed by clusters of dark brown berries. Plant 2 feet apart and prune close to the ground annually early in April. *H. calycinum* (the common St. John's Wort) is partly evergreen and admirably suited for clothing banks or making beds where low-growing subjects are required; it will flourish anywhere, and should be cut close to the ground with the shears annually. *H. moserianum* is one of the best of this class of plants, but needs some protection in cold districts. *H. patulum* is also an excellent variety, and not so extensively planted as it deserves.

KERRIA JAPONICA VARIEGATA,

a charming small, compact-growing shrub, with pretty silvery variegated foliage, bearing single bright yellow flowers. It is very suitable for small beds or grouping in the front of shrubberies. It is liable to revert back to the green form, which should be kept cut out. Very little if any other pruning is required; a poor light sandy soil suits it best.

LEYCESTERIA FORMOSA,

a delightful shrub for massing in the wilderness or semi-wild garden, requires a deep rich soil. Its large purple and white flowers in August and September are very distinct and pleasing, and during autumn and winter the wood is very conspicuous, being of a very bright green colour. It should be pruned back annually, and the ground pricked over in spring. Plant at a distance of 4 feet apart.

LONICERA (HONEYSUCKLE), LARGE DUTCH.

To see this beautiful climbing plant at its best stack together a good mound of tree roots, fill in with soil, and plant at a distance of about 4 feet apart. At first the growths will require to be trained and nailed over the roots, and when once covered they will need little other attention. Large beds planted in this way will sure to be highly appreciated—if for nothing else—for the fragrance of the flowers.

LYCIUM BARBARUM,

commonly called Box Thorn or Tea Tree, should be planted in large groups where it can ramble away near the water or overhang large roots of trees or boulders. Except to regulate the growths once a year, it will give no further trouble. There are several other varieties well suited for the same purpose.

RHUS COTINUS (VENETIAN SUMACH),

the Smoke Plant or Wig Tree, is one of the most effective shrubs for this purpose. A large mass of this, with its delightfully-tinted foliage in autumn, is a pleasing picture, and it is well adapted for any position or any part of the garden. It should be planted in deep but poor soil, at a distance of 5 feet apart, and slightly pruned annually early in April; it requires no other attention. *R. typhina* (the Stag's Horn Sumach) is one of the commonest plants grown, with not much beauty, except when planted in large beds and cut close to the ground annually. When treated in this way few things are more attractive; it then throws up strong, vigorous shoots, with fine, tropical-looking foliage, which is highly attractive during summer, and the colouring of the foliage during autumn is most conspicuous, also of the wood during winter. When stripped of its foliage it is distinct and pleasing; it will flourish in any soil. Plant 3 feet apart, and it is easily propagated by root suckers.

ROSA RUGOSA.

This charming Rose, when planted in the wilderness, semi-wild garden, or around the lake, in

large beds or masses, is always seen to good advantage; it has fragrant flowers in summer, and large, highly-coloured fruit in autumn; place it in the fore-front of flowering plants. Plant in deep, well-enriched soil, at a distance of 4 feet apart, and prune, like other Roses, annually; the white variety is equally well adapted, and may be mixed with the above.

ROSA BENGALÆ HERMOSA,

belonging to the monthly or China section, is the freest flowering of all Roses that I am acquainted with. In mild autumns it flowers freely until Christmas when planted in sheltered positions. It enjoys a rich soil, and should be pegged down annually, merely thinning out the growths in spring. Well suited for any part of the garden or grounds, and it is perhaps unequalled for covering southern slopes.

RUBUS.

Nearly the whole of these lend themselves admirably for this style of planting. I will mention those only which I have found to succeed best: *R. biflorus* syn. *leucodermis* (the white-washed Bramble) is one of the most distinct and effective of the whole class. During winter it has the appearance of being painted white, and when planted in close proximity to the scarlet Dogwood is exceedingly attractive in the distance. It succeeds best on a good deep loam, and the old growths should be cut out every winter. Plant at a distance of 4 feet apart. *R. canadensis rosea* (the flowering Raspberry) is invaluable for making large beds. It continues to produce its highly-coloured flowers freely all through the summer and autumn. Plant 3 feet apart and thin out the old growths annually. *R. fruticosus roseo flore-pleno*, also the white form *alba* (the double-flowered Blackberry) is well worthy of extended cultivation; it is admirably suited for massing on slopes. The old growths should be cut out annually, and plant 4 feet apart. *R. laciniata* (American Blackberry) is the best of the fruiting kinds for this purpose; it produces large crops of valuable fruit every year. Treat in the same way as advised for the above. *R. phœnicolasius* (the Japanese Wineberry). This somewhat new form of Rubus is one of the best possible plants for this kind of planting. It bears freely, and the fruits are much appreciated by many, and its bright canes during winter produce a most pleasing effect. It is a strong grower when planted in good soil at a distance of 5 feet apart. Remove all the old canes during winter. The ordinary garden forms of

RASPBERRY

also make fine groups in the unkempt parts of the grounds. The old growths should be pruned out each autumn, when the young canes have a warm and pleasing appearance.

SALIX.

Many forms of the Willow are admirably adapted for the garden, and form splendid features during the winter months. Perhaps on a fine winter's day large masses of the highly-coloured barked Willows can hardly be excelled for their beauty and rich colouring, but, of course, are only adapted for water-side planting or low wet marshy land. Nothing is more readily propagated from cuttings than these; they should be planted 3 feet apart, and the young growths pruned hard to the ground annually the last week in March, for it must be borne in mind that any wood more than twelve months old has very little, if any, beauty in it. The three best kinds I know grown for the beauty of their wood are *Salix vitellina*, the golden-barked Willow, *S. cardinalis* (which has bright red bark), and *S. purpurea*, as its name implies, is purple. Though not so effective in the distance as the foregoing, it is well worthy of cultivation. I will mention one other Willow only which should be planted for its summer beauty, that is *S. rosmarinifolia*. Its beautiful grey foliage much resembles that of Rosemary, and has a very pleasing appearance. It is not so robust a grower as many of the family, and there is no beauty in the wood during winter, consequently the growths should only be shortened back to within three eyes of the base annually.

SAMBUCUS.

The Elder family, like the preceding, is a large one, and fortunately adapts itself to almost any kind of soil or situation. First and foremost must be mentioned *Sambucus nigra aurea*, a bold and beautiful, tall-growing Elder, and its rich golden foliage produces a marvellous effect in the landscape. Large bold masses of this should always be used where practical in a half-open position. Hard pruning in this case must be carried out, cutting the summer's growth close to the ground annually in the last week in March. The effect of the greenish-grey wood in winter when treated in this way is pleasing; the silvery variegated form, though not nearly so showy, is worthy of a place where the grounds are extensive. Should be planted on poor soil in an open position, and pruned hard annually. *S. n. laciniata* (the Parsley-leaved Elder) is a beautiful and distinct form of the cut-leaved Elder, which attains its true character and makes splendid beds; it requires the same kind of treatment as to pruning as the above. *S. racemosa serratifolia aureis* is unquestionably the finest variety in cultivation; but, unfortunately, is not so robust as many of the others, and it is far too rare and expensive at present to plant to any extent in outside plantations, but is well suited for massing in the garden. It does best on a deep rich soil in a fully exposed position, and prune back hard early in April. The cuttings should be propagated in pots in a cold frame. The whole of the Elders should be planted 3 feet apart.

SPIRÆAS.

Another beautiful and interesting class of plants for effect either in summer or winter, when sufficiently large plantations are made and properly treated. The whole of these should be planted at a distance of 2 feet apart, on deeply-trenched and well-manured ground. The North-West American *Spiræa Douglasi*, though one of the most common, is unsurpassed for its distinct and beautiful wood during autumn and winter, but the only way to see it at its best is to cut it clean to the ground every year the last week in March. It will then produce young strong growths from 4 feet to 5 feet in height, each of which will furnish fine heads of deep pink, telling flowers during summer, and its beautiful warm-looking, nut-brown wood in winter is to my mind among the most richly toned of all the barks which are used to produce effect, and yet when grown in the ordinary way, and partially pruned down, as we in nearly all cases see it, it produces miserable flowers, and the wood is uninteresting. About every third or fourth year after pruning give a surface dressing of half-decayed manure and loam in equal proportions. The prunings should be tied up and saved for staking purposes; I know of nothing to equal them for all kinds of slender-growing plants. *S. callosa* also makes a fine bed, and is very effective during late summer; its large heads of deep pink flowers render it most conspicuous; they are produced when the others are past their best. It should be cut to the ground every third year. *S. prunifolia flore-pleno* is an exceedingly beautiful form, which flowers freely in March and April, and its foliage assumes lovely tints in the autumn. It is of very graceful habit, and well suited for banks or overhanging rocks. It should be moderately pruned each year, and when it attains to a leggy appearance cut hard back. *S. canescens* syn. *hypericifolia* makes splendid beds owing to the pretty arrangement of the foliage. This should be pruned to the ground annually.

SYMPHORICARPUS RACEMOSUS (THE COMMON SNOWBERRY)

is generally regarded as an almost worthless plant, but when in a sunny open position on well trenched land and cut close to the ground each year, large beds are most attractive in autumn and winter, as by such treatment the growths will become thickly studded with pure white fruits. *S. variegata* is a very pretty, somewhat slow-growing golden leaved shrub, and should be planted in an open position. It has a tendency to revert back to the green form. Shoots of the type should be kept

cut away. This should be slightly pruned in spring, and when leggy cut to the ground.

ROSA RUBIGINOSA (THE SWEET BRIAR).

Every woodland walk, wilderness, or semi-wild garden should have one bed or more of this fragrant plant. The delicious scent emitted from its foliage in spring after showers is very welcome, and the bushes when heavily laden with the bright red fruits in autumn and winter are most effective. This should be planted at a distance of 3 feet apart in well trenched and heavily manured ground, and clipped over every spring.

E. BECKETT.

(To be continued.)

MAKING USE OF BANKS BY WATERSIDE.

THE accompanying illustration teaches one great lesson, that of making the most of opportunities of creating good garden pictures. We frequently find banks by waterside utterly barren of flower life, when so much may be made of such positions, as shown in the picture, which, as so many others we have illustrated in *THE GARDEN*, is at Wisley, Mr. Wilson's charming Surrey retreat.

NOTES ON ORCHIDS.

DENDROBIUM WIGANIANUM
(VEITCH'S VARIETY).

THIS is a distinct variety of *D. wiganianum*, raised by Mr. Seden, in Messrs. J. Veitch and Sons' nurseries, from the intercrossing of *D. nobile* and *D. Hildebrandi*. This hybrid, it appears, first flowered in Mr. W. S. Ellis' collection at Dorking, and was named *D. Ellisi*; but the plant exhibited by Sir F. Wigan at the Drill Hall recently as *D. wiganianum*, receiving an award of merit before the first-named appeared, causes some complications in its nomenclature, illustrating the necessity of a responsible authority for the proper naming of hybrid Orchids. The distinction between the certificated plant and the one raised by Mr. Seden is principally in the fact that the latter has a prominent rich maroon disc at the base of the lip, whereas in the certificated plant the base was quite clear and of a pale yellow through the tube. The extra colouring in Messrs. Veitch's variety renders it much more attractive. It is a most desirable addition.

DENDROBIUM AINSWORTHII INTERTEXTUM (NOBILE
× AUREUM PHILIPPINENSE).

THIS is one of the most distinct and beautiful of the Ainsworthii section of hybrid Dendrobiums. The sepals and petals are creamy white, faintly tipped at the apex with rose, the lip creamy

white, tipped with soft rose in front, and there is a distinct area of brighter shade surrounding the brown-purple disc. The flowers are not fragrant as in the typical *D. Ainsworthii*; this is no doubt accounted for by the fact that the variety of *D. aureum* used in its production has not the highly perfumed characteristic of the typical *D. aureum*. The growth also differs considerably, being more slender and much longer, which was a particular characteristic of Mr. Lees' plant of *D. aureum philippinense*, which I well remember in the Downside collection. Messrs. J. Veitch

and Sons, Limited, had a fine display of this most desirable kind in their Chelsea nursery recently.

DENDROBIUM KENNETH (MC CARTHIE &
BENSONÆ).

THIS is one of the finest of the hybrid Dendrobiums. The sepals and petals are pure white and of good form and substance. The lip is elongated as in *D. McCarthyæ*, white, with a rich maroon disc at the base. It is remarkably free flowering, and was one of the most attractive among the



SHOWING THE WAY TO BEAUTIFY BANKS BY WATERSIDE.



COTTAGE GARDEN AT KIOTO.

rare *Dendrobiums* in flower recently in Messrs. J. Veitch and Sons' nurseries.

DENDROBIUM WIGANIE (SIGNATUM \times NOBILE).

This desirable hybrid is more varied than might be expected. It is difficult to find two plants alike among those now in flower at Chelsea. The distinctive yellow tints seen among the flowers of the later raised seedlings are most attractive. These plants should be useful for hybridisation. The habit of growth, combined with its free flowering characteristics, render it a most useful and charming addition to this section of hybrids.

CYMBIDIUM EBURNEO-LOWIANUM.

This desirable hybrid, derived from the parentage indicated in the name, improves as the plants gain strength by reason of the colour, substance, and the number of flowers on the raceme. I have seen several instances this season of eight flowers on the raceme, and in one case there were nine. A most distinct variety with four racemes, carrying twenty-four flowers, was recently noted in Messrs. J. Veitch and Sons' nurseries. The flowers were creamy white, without the usual brown suffusion. The front lobe of the lip stained with rosy purple instead of the crimson-purple of *C. lowianum*, which is such a prominent feature in the typical kinds. These plants are suitable for cool intermediate house treatment, where they may obtain a free circulation of air whenever the outside conditions are favourable.

EPIDENDRUM CLARISSA (ELEGANTULUM \times WALLISI).

This charming secondary hybrid is now in perfection in Messrs. J. Veitch and Sons' Chelsea nurseries. It is remarkable for its distinctness. The ground colour of the flowers is almost white, and in some the sepals and petals are free from markings. The yellow ground kinds are suffused and spotted with purple, while those having heavy suffusions of purple are the more deeply and densely spotted. The labellum is generally white, suffused and streaked with purple. They form a most interesting and desirable addition to this class of plants, and succeed best in a warm moist position of the warm intermediate house. They require a liberal amount of strong light, but must be protected from the scorching direct rays of the sun during the hot summer months. The potting compost should consist of good fibrous peat and living sphagnum in about equal proportions. They require an abundance of moisture during the season of active growth, and must not be allowed to suffer from want of root moisture at any season of the year.

H. J. CHAPMAN.

JAPANESE TREES.

THE accompanying two photographs show these trees, in a dwarf and giant state, in their native country. In contrast to the English cottage with its front garden, every Japanese residence of this description has its garden at the back, the severe-looking frontage of these buildings giving the visitor no idea of the artistic surroundings and charming little shrubbery to be found at the back. Flowers are not cultivated in these gardens, only shrubs and trees, and these are pruned and trimmed to such an extent that they remain in the dwarf state seen in the illustration, while, no matter what size the

garden may be, there is always a small pond or running stream, with innumerable gold and silver fish, the feeding of which with thin, wafer-like biscuits is a source of much amusement to visitors. The giant Pine tree at Lake Beira, near Kioto, is of such enormous proportions and beauty that it is looked upon as sacred to the natives, and a shrine is erected near its trunk, where they come and offer up their devotions. The trunk of the tree is not much over 20 feet in height, but the branches are of immense length, some of them being considerably over 100 feet; they have been trained horizontally, and spread out in a circle like a skeleton umbrella. Each branch rests on numerous strong wooden supports about 10 feet high, to prevent them touching the ground, the whole having a most curious and picturesque effect.

E. H. W.

A JAMAICA GARDEN.

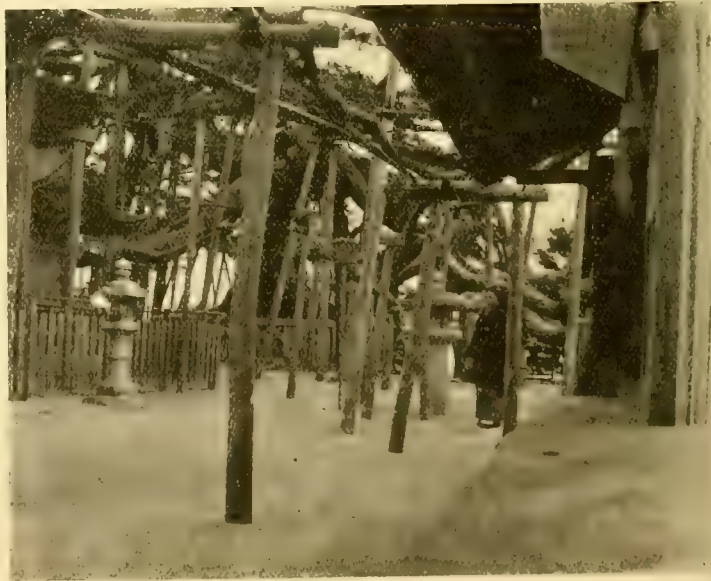
WEeping MARY (*RUSSELLIA JUNCEA*)

Is a plant full of grace and beauty. It is a near relation of *Pentstemon*. The young shoots carry small leaves in whorls, which die away and give place to the characteristic rushy foliage. *Juncea*, though, is hardly the right adjective. *Equisetifolia* would hit the mark exactly. Anybody who had not previously met with the plant would recognise it at once from the following short description: A Mare's-tail bebung with taper scarlet-pink *Fuchsia* bells. Some people call it *Fuchsia*. It grows in the hottest, driest places, and spreads with amazing rapidity. Any nodding head that lays itself to rest upon the ground roots before it has time to wake up, each individual hair-leaf will make a plant if it touches the earth. I take advantage of its accommodating nature and use it largely. It is always out, and worthily fills many a

corner which would otherwise lie empty owing to unfavourable conditions of soil or aspect.

RED AND BLUE.

One such place is the short border at the eastern end of the outbuildings. The morning sun beats upon that spot with peculiar virulence. Many were the trials, many the failures, but two plants have come out triumphant. *Russelia* from one patch has won possession from end to end, and *Clitoria ternatea*, which is our Everlasting Pea, takes up any spare space it can find. It is ever a matter of some surprise that these incongruous colours go so well together, or rather clash so little. I attribute it to the saving grace of Weeping Mary. *Clitoria* is wonderfully, uncompromisingly, *gentianally* blue. A scarlet equally determined in its way would be an impossible neighbour. The rash gazer would have to wipe his two eyes, if indeed under a nine o'clock sun by this white wall he had any eye left to wipe. But *Russelia* manages to save the situation, it shades from scarlet to pink, in the throat even to a light pink, suggesting white. Taking it altogether I think it is what is known as coral. Gay but not boisterous, bright but not vivid, it manages to be companionable. *Clitoria* itself, if at all judiciously placed, is also not so ill to live with as might be supposed. All its blues are blues of great beauty. There is a plant, however, which is hopeless in all combinations, and that is *Meyenia erecta*. I first saw it at Castleton. The Government garden, from which my earliest batch of plants came. It is one of those striking things that arrests the attention at once, but it is evidently hard to place. So, when the time came for ordering plants, I asked for the white one and left out the blue. Two years after Headlam brought me some cuttings, and so it got into the garden after all. What to do with it? This was the constant problem while the cuttings were striking. All possible places were reviewed, cogitated over; all condemned. Bear in mind that it cries out from afar: "Look at me! I'm *Meyenia erecta*—erecta, I tell you, well stuck up, and such a violet-blue. Sometimes they call me *Thunbergia*—then *Meyenia*—then *Thunbergia* again. I'm not quite sure which I am now, but what's in a name? Look at me! I'm blue, bluer than everybody." Yes, *Meyenia*, *alias* *Thunbergia*, so you are, and very fine too, alone. And you shall go in a place that just occurs to me, behind a grey rock overlooking the pond. Greenery below you, the rock for background. It was one of those lucky bits of placing which has answered all expectations. Hidden behind its rock from other coloured things above you turn a corner and still do not see it. What you do see is the pond and its white Water Lilies 80 feet below, red heads of *Clerodendron fallax* to the left of it, to the right



SACRED TREE AT OTSU.

clumps of Wild Plantain (*Heliconia Bihai*), with its orange tirremes and the glint of sun on its noble leaves. It is only when you turn round that you see *Meyenia*, or when you come up this way with eye attuned to white Lilies and the green-fringed water, which prepares you to meet it full face. As a matter of fact I rarely take this path for the upward journey.

ABOVE THE POND.

To walk, as you deal cards, from left to right is natural to most people. In picture gallery, museum, or range of hot houses we instinctively turn to the left on entering. There are other reasons. This way is the steepest and the sunniest, and therefore the best to go down and the worst to come up. The Fernery path further west is gentler in slope, except for a final stairway of stones, and it is shaded by trees. Owing to these same trees views down hill from the Fernery path are almost shut out, and only a fraction or two of pond water can be seen, while on the other hand, on the Corato path, so called from a giant Agave *Morrisii* at the second elbow as you go down, here, at *Meyenia* corner, the pond bursts upon you at once. It is almost but not quite a precipice. A cross path on the level, seldom used, has been cut out of the hillside to join the Corato and Fernery tracks. Enclosed between these three paths and the pond is a space of about an eighth of an acre, standing, if I may say so, nearly upright. It is planted with small Bamboo (*Arundo Donax*), which we find the best thing to defend steep ground against the torrential washes of May and October. I cut it right down twice a year so as always to have it fresh and clean; if left longer it gets brown and shabby and the canes fall. It grows about 20 feet between cuttings. The end towards the Corato is rocky ground, just the thing for Prickly Pear (*Opuntia*), and several kinds are going in there; *O. tuna* and *O. Ficus indica* from America; some seedlings of the sort they eat in Natal; I hope, too, some from Malta. From there comes a report that seedlings will grow but not fruit, and that fruiting plants can only be obtained from leaves. I have asked to have some seeds, in spite of this local experience, to see whether it holds good here; the climate may make a difference. There are many kinds of *Opuntia* grown in Jamaica, but none are good to eat. That may be due to climatic reasons, but as nobody seemed to take much interest in them, and as the Prickly Pear of the Mediterranean is such a good cool fruit, it appeared worth while to try experiments. The local name is *Conchineal*, always with that *n* in it.

WHITE CORALILLA.

On the far side of the pond is a Mango, completely smothered by two vigorous climbers, *Thunbergia Harrisii* and *Porana paniculata*. They were planted to see which would gain the day. It is an even contest, and both hold their own. The poor Mango will not long survive. September brings out the *Porana*, White Coralilla as we call it. Such a perfect thing, a climbing White Lilac with glaucous leaves. The panicles are thickly set along a wiry stem, and a whole spray bent upon itself makes a feathery wreath of the prettiest kind. The colour is rather creamier than lilac, the panicles looser, and the individual flower-pips smaller. The smell is nearly the same, I inclined to say exactly the same, but that at some year's interval it is impossible to retain the precise quality of the lilac. Beautiful out of doors, it is still more beautiful cut, and is one of those things that arranges itself and goes with anything. It may stand upright with a few strong red Carnations, and both gain in colour by association, or half hang from some low vessel, and may be had any length from a few inches to 3 feet or 4 feet. The name *Porana*, which means traveller, indicates its habit.

It runs along the ground, rooting where it can, and climbing everything it meets. A peculiar kind of traveller, not like man and certain Alpines, which, when they occupy a new place, abandon the old. Coralilla has no such intention, but proceeds after the manner of the Banyan, it clings to its first location, fights with its old enemy the *Thunbergia* as fiercely as ever, and goes out at the same time to annex fresh territory. Excursions towards the pond have to be resisted, as a fair way along its edge is desired on this side. In two directions extension is encouraged; southward, crossing the path, it writhes over stony ground towards a grove of Orange and Pimento; eastward it has passed the pond head and is climbing a bare face of rock and reaching up into a tall Mahogany (*Swietenia Mahagoni*). It likes a moist root-run to begin with, and with that as a base of operations, is content to move into drier places. A second plant put on a hot dry part of the wall makes no progress. A third is trained on a fence to be handy for picking. Envious sprays hang out of reach on the Mango, and I have to get what I can for the house, not what I would; it is so important to have pieces of just the right length and "set." Books tell us that it is a *Convolvulus*, but that gives no idea, or a false one, of its appearance,

another called *Youngi*, that is the most beautiful of the weeping Birches. In the variety *dalecarica* the leaves are very deeply cut, while those of *purpurea* are of a bronzy purple. Other distinct kinds are *Fastigiata*, which reminds one of the Lombardy Poplar, the golden-leaved *aurea*, and the nettle-leaved Birch (*B. urticifolia*), which has finely-cut downy leaves.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

FROZEN AND COOL STORAGE OF FRUIT, &c.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—There is a great difference between these two methods, which I shall allude to in an article in reference to Orange and Banana exportation, a business not yet settled. I have always believed that gardeners in this country, if not the originators of cool storage of fruits and other garden produce, have at least been among the



SILVER BIRCHES AT BURNHAM BEECHES IN EARLY SPRING.

though it accounts for its climbing. It only flowers with me for a few weeks in the autumn; in the plains the season is longer.

W. J.

(To be continued.)

THE BIRCH.

THE Birch (*Betula alba*) is the most graceful of all hardy trees. The whitened trunks stand out like shafts of burnished silver, and with their elegant drooping spray form a charming woodland feature at all times, but especially in winter and quite early spring. It is extremely variable in many respects, hence there is a long list of well-marked varieties. There is a beautiful weeping form (*pendula*), and

pioneers, because they have always been familiar with ice houses, and have used them for many purposes besides ice. When I was a boy at Drumlanrig Castle, an immense establishment with a big demand, where blanks between successional crops had sometimes to be tided over in some way, Mr. McIntosh, the gardener there, practised cool storage. Following the lessons I learned there, I, previous to 1870, had a new ice house fitted for the same purpose, an account of which will be found in vol. iv. of *THE GARDEN*, 1873, copied from the *Field*. My experience may perhaps be usefully described. The ice house, an egg-on-end shaped one, nearly 20 feet deep, was wholly underground, and at the top end, the roof, were hooks for suspending game or anything of that kind, and on the ice floor, where nothing ever actually froze, were preserved, for long periods, Pines, Peaches, Melons,



APPLE DIAMOND JUBILEE. (About two-thirds natural size.)

Figs, Cucumbers, forced French Beans, and anything else that we had an overstock of. When the winter Broccoli came in with a rush, about April and May, I sometimes kept the supply up from the ice till the summer Cauliflower was ready. Turtle soup and the like I have kept for long periods for the cook.

We used the ice thus: After the ice store was got in, up to the latest frost, the house, which was entered from the top, was shut up. As gardeners know, ice always begins to waste in an underground ice house as soon as it is filled, and the ice melts regularly from the outside, leaving a space between the wall and the ice. As soon as this space was a few inches wide, the ice was levelled off the top to fill up the cavity again, thus leaving a floor of ice of considerable area on the top of the heap. On this floor all fruit and vegetables were set in trays or tin boxes without any packing, and, there being next to no condensation, the fruit was always dry and nice. With some soft fruits, however, my experience was instructive and interesting. Peaches, for example, I have kept spotless on the ice from a month to six weeks after they were dead ripe. The first week or two they were all right, but after a much longer period they lost flavour, and became discoloured a few hours after they came out and were put up for dessert in a warm room. My first experience of this kind was at a great provincial show, where I was awarded the first prize for a collection of fruit containing Peaches and Nectarines. At the time I had about thirty dozen of these on ice, some of them over a month. On the morning of the show I picked the best out for my collection. They were set up in the show about nine o'clock, the judges entering soon after. By one o'clock when I went round they were black, and I overheard one of the judges remark, after the judging, "The hot day I suppose." It was the cool storage, but I said nothing, and never risked it again, nor never after that did I send Peaches in for dessert from the ice house till the last moment. More or less this quick decay and loss of flavour happens with both fruits and meats. I am told by dealers in imported frozen meat, that it will not keep after thawing, and that the longer it is frozen the worse it is. A good cook once told me the same thing.

The advantage of an ice house is, that fruit does not freeze in it if kept above the ice and not

under it. In our entirely underground ice house the temperature when empty ranged between 45° and 55°, and when the ice was in between 32° and 38° or thereabouts. This is cool as distinguished from frozen storage, and is a method at the service of the gardener or cook wherever there is an ice house. I, however, got so suspicious about the loss of flavour, in the case of soft and select fruits on ice for a long period, that I never resorted to the plan till the last moment. The ordinary fruit room is the best place to begin with. I have kept quite ripe Queen Pines a month there in sound condition, and then taken plants and fruit to the ice house and kept them another full month. I have often admired the fine spikes of flowers from retarded Lily of the Valley roots by cool storage, and wondered how it would do with other plants. I once kept twelve good pot Vines in the ice house all the summer, with the object of starting them about August and having a crop about the new year, but none of them did as well as those of the same lot started at the natural season.

J. SIMPSON.

ROYAL GARDENERS' ORPHAN FUND.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In the thirteenth annual report, &c., of this truly admirable charity just issued, there is—if one may so express it—more food for philosophic reflection than is to be found in whole tomes of some gardening literature. A reference to one section of it—the list of subscribers (would that this comprised more of the "gardener" element!)—always a very interesting and important section in connection with such institutions, prompts the following suggestions. I notice—being well acquainted with it—that a very struggling society—the West London Horticultural Society, to wit—made a donation last year of the sum of two guineas. Would that every horticultural society throughout the land might in future follow such a good example! What a nice little sum this would represent in the fund's coffers! There are, scattered up and down the country, many prosperous horticultural societies that might well set aside year by year a portion of their "profits" to accelerate the good work performed in aid of gardeners' orphans. Those educational and capital organisations—a welcome sign of the horticultural progress—gardeners' improvement associations, might aid, too,

the good work by having collecting-boxes placed in their meeting rooms to obtain subscriptions, however small. "Mony a mickle makes a muckle!" as the old Scotch saying quaintly but truly puts it. On page 46 of the present report what a world of pathos is contained in those simple words from a widow in reference to the assistance she has so appreciatively received from the fund! The concert scheme of assistance towards the fund—one that brought in a goodly sum—is, most unfortunately, little considered now.

It is regrettable that the Chiswick Gardeners' Association, the pioneers in the concert movement, have abandoned for some time this form of benefiting the fund. Some few years ago most successful and high-class concerts were held annually in a district that was for many years the headquarters of the fund. The need for such aid is, of course, now greater than ever, looking at the largely increased responsibilities incurred, and seeing, too, that some fifteen children were added only in February last to the already lengthy list for maintenance by the fund.

Why not annually have a Gardeners' Orphan Day, as already we have Hospital Saturday and Hospital Sunday? Such a scheme, properly organised, should reach all in touch with gardening, from the boy crocking pots to the millionaire who enjoys the delightful products of the gardener's skill and art. LIFE MEMBER.

APPLE DIAMOND JUBILEE.

THIS excellent culinary Apple was exhibited by Mr. A. J. Thomas, Sittingbourne, Kent, at a recent meeting of the Royal Horticultural Society, and was then given an award of merit. It is of good size and handsome appearance, broadly conical in shape, an abundant bearer, and fitted in all respects to rank with our best kitchen Apples, and well worthy the award given to it by the fruit committee.

AN ARTIST'S NOTE-BOOK.

ARUM PALÆSTINUM.

A MEMBER of the Cuckoo-pint family the interesting and curious plant here illustrated is represented in this country by *A. maculatum*, a common inhabitant of our thickets and hedgerows. Another species from southern Europe, the Italian *Arum*, is also making its home in this country, and becoming naturalised in many districts. It has larger leaves and flowers than our native plant.

In general habit the Black Calla, as it is sometimes called, resembles our common *Arum*, producing large triangular hastate leaves and spathes of about the same length, green on the outside and black-purple on the inner velvet-like surface. Fortunately, this plant is destitute of the objectionable odour common to many members of this genus. The handsome flowers are produced in April and May. Being a native of the country round Jerusalem whence it was introduced some thirty-six years ago, it is rather tender, and this fact may explain the reason why it is not more often seen in gardens than it is. It will flourish in a very warm, sheltered position, in rich soil,

with plenty of moisture during its growing period. *A. sanctum* is a synonym under which the above plant is sometimes found. W. I.

CARNATIONS.

THE modern history of the Carnation dates from July 25, 1850, when the exhibition was held in the Royal Nurseries, Slough, and where the National Carnation and Picotee Society was formerly founded. Since then we have the Northern, held at Manchester, the Southern section at Southampton, and the Midland held in Birmingham. Never in the history of the Carnation and the Picotee were they held in such high esteem as at the present time.

I will endeavour to give a few details regarding the cultivation, and will commence with the propagation. The Carnation can be propagated from seed, cuttings, or layers; the latter method is the one generally adopted. It is of the greatest importance that we should get our layering done as early in August as possible, so that we can have our plants well established before winter sets in. If old plants are allowed to remain out in the open we are liable to lose a great many in the winter through frosts and excessive moisture. If layered the young plants will pass through the winter without injury; the plants can remain where layered. The soil for layering should consist of equal parts of good sandy loam and leaf-mould, with plenty of coarse sand, sea sand if procurable. Pass the soil through a half-inch sieve; it will then be ready for use. Before commencing to layer see that the plants are not dry. Then remove the leaves from the shoots, commencing at the bottom, holding the shoot firmly to prevent its breaking off at the base. Clean all the layers on the plant before cutting any, holding the grass between the left fore finger and thumb. Start about half an inch below the joint, making an upward cut about $1\frac{1}{2}$ inches in length. Cut the tongue off close to the joint so as to allow a broader base for the roots to start from, using a sharp, thin-bladed knife for the purpose. Carefully bend the layer upwards until the cut freely opens; press it gently into the prepared soil and peg firmly. When finished water lightly with a fine-rosed pot. If layering in pots or in the open ground the surface of the soil should be broken up with a pointed stick before the layering soil is placed round the plant. Pegs made of either Bracken, Fern, or galvanised wire, cut into lengths about 4 inches long, and bent at one end to form a hook, answer well. The layers should be well rooted by the early part of October. Care is required in lifting the young plants, the roots being very tender and liable to break. They can be potted into small pots singly or in pairs. The soil for potting should consist of three parts good turfy loam and one part leaf-mould, and sufficient sand to make the whole porous. Well drain the pots, place the plants in a cold frame, and keep close for a few days. When the plants are established admit air

freely at all time, never closing the frame through the winter. The lights can be removed when the weather is suitable. It is not cold that injures the Carnation so much as damp. Water sparingly through the winter and as early in the day as possible to allow the plants to dry before night. Go over the plants at intervals to remove all decayed foliage and destroy green fly. The fly can be brushed off with a painter's brush or syringed with soft soap. October is the best month to plant the Carnation in the open beds, which should have been previously prepared.

10 inches apart, with not more than four rows in a bed to make it convenient for layering. Press the plants firmly in the ground. If planting is left until the spring it should be done as early in March as possible with plants wintered in pots. If after sharp frosts and thaws any of the plants have been lifted they must at once be placed firm in the ground. As the season advances keep the beds free from weeds and the surface of the beds well hoed. When the plants push up the flower stems they must be tied to sticks, but not too tightly. If fine blooms are required the buds should be thinned when large enough to handle. Thin to three or four buds on each stem. When buying plants the proper time to secure them is in the autumn.

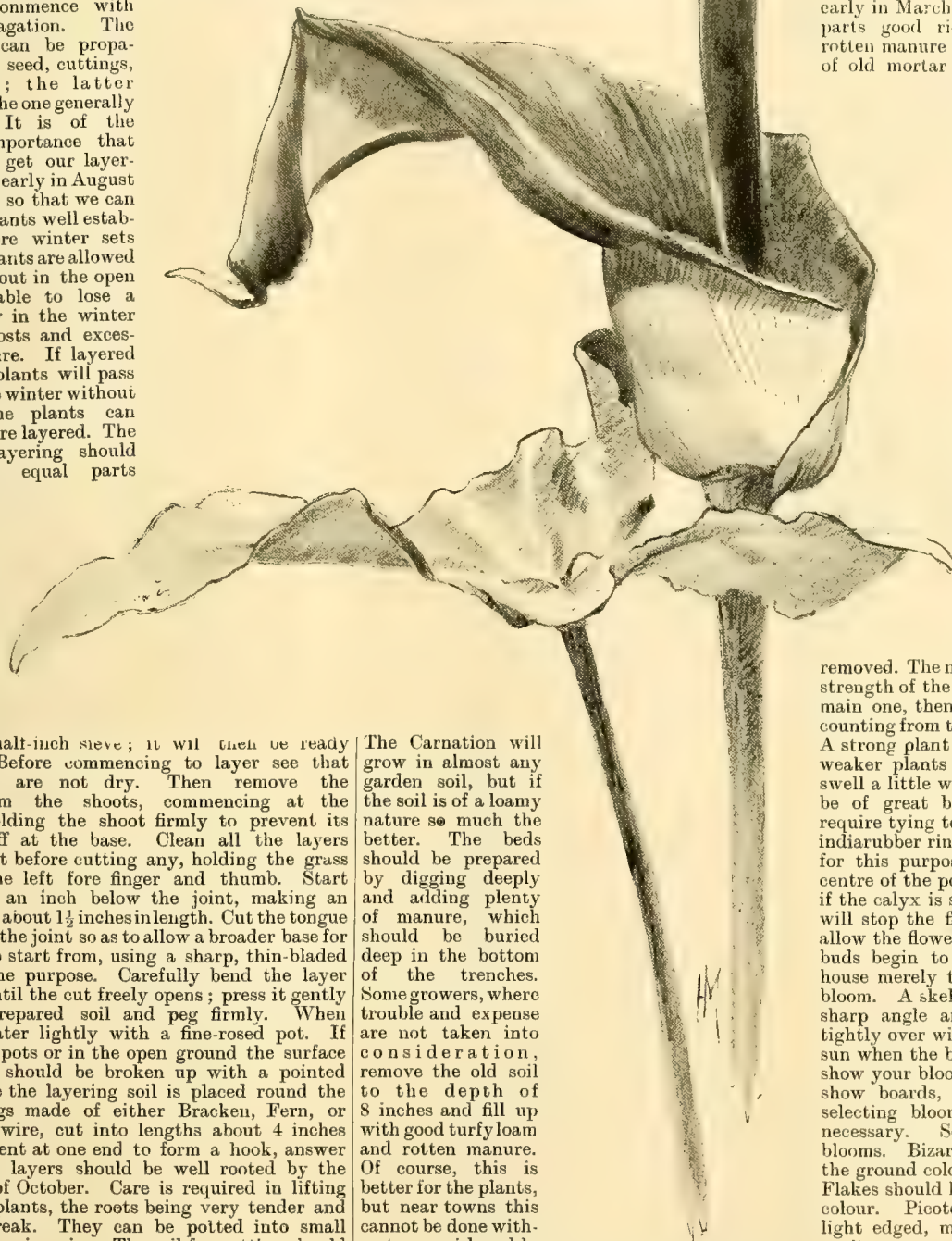
POTTING.

Plants should be placed in their flowering pots early in March. The soil should consist of three-parts good rich turfy loam and two parts of rotten manure and leafy soil, with a good sprinkling of old mortar rubble and coarse sand. Mix the whole thoroughly, and place the soil under cover when ready for use. Clean pots should always be used, 6-inch, 7-inch, and 8-inch pots, according to the strength of the plants. Six-inch pots will be large enough for one strong plant, two in a 7-inch, and two or three plants in an 8-inch. Firm potting is a necessity. After potting the plants can be put out of doors on ashes or strips of wood to prevent the egress of worms, but if convenient it would be well to place them in a cold frame until the plants take hold of the new soil, giving plenty of air. As the season advances look carefully to the watering. If hot and dry water freely, giving the plants a good syringing over head; it will help to keep them clean and promote growth. As soon as the plants begin to throw up their flowering stems place sticks about 3 feet high, one stick to a pot, tie the stem securely, not tightly, stop all sideflowering stems except the leading ones. Disbud as soon as the buds can conveniently be

removed. The number of buds must depend upon the strength of the plant. The buds to be left is the main one, then the one at the third or fourth joint counting from the top. Select the best-shaped buds. A strong plant will carry from three to four buds; weaker plants two only. As the buds begin to swell a little weak manure or clear soot water will be of great benefit to them. Some sorts will require tying to stop the buds from bursting, small indiarubber rings or a thin piece of raffia are useful for this purpose. Tie rather tightly round the centre of the pod. When the buds begin to burst if the calyx is split a little on the opposite side it will stop the flower from bursting, and this will allow the flower to open more evenly. Before the buds begin to burst place the plants in a cold house merely to keep the rain from spoiling the bloom. A skeleton house made with a roof at a sharp angle and covered with canvas stretched tightly over will answer well. Shade from bright sun when the blooms are opening. If you wish to show your blooms in competition you will require show boards, dressing tweezers, and cards. In selecting blooms for competition great care is necessary. Select the brightest and freshest blooms. Bizarres should have two colours besides the ground colour, which should be of pure white. Flakes should have one colour besides the ground colour. Picotees, whether heavy, medium, or light edged, must have grounds of the greatest purity.

DRESSING AND STAGING THE FLOWERS.

It is useless to deny that honest and proper dressing is a fair advantage to the florist's Carnation. The petals of the Carnation are so easily



ARUM PALESTINUM.

(Half natural size. Shown by Messrs. J. Veitch and Sons at a recent meeting of the Royal Horticultural Society. From a drawing by H. G. Moon.)

The Carnation will grow in almost any garden soil, but if the soil is of a loamy nature so much the better. The beds should be prepared by digging deeply and adding plenty of manure, which should be buried deep in the bottom of the trenches. Some growers, where trouble and expense are not taken into consideration, remove the old soil to the depth of 8 inches and fill up with good turfy loam and rotten manure. Of course, this is better for the plants, but near towns this cannot be done without considerable outlay. Well firm the ground before planting. Plants should be placed about 8 inches to



ASPLENIUM INCISUM.

displaced by the wind so as to hide more or less of their proportions and beauty. Often two or three petals will overlap so as to appear as one. Nature, therefore, having done her part, it remains for us to commence where she has left off, and bring to light all the beauties of the flowers, placing the petals in the best position so that the finely marked petals shall be displayed to the best advantage. All ruined or defective petals must be pulled out with a pair of tweezers. In bizarres and flakes no self petals or those devoid of white are admissible. Cards of two sizes are required, the larger one put under the flower to arrange the petals upon, and the smaller card should be cut with a star-shaped pattern in the centre. The points of the strain as the flower stems pass through will bend outwards and downwards. Bind gently on the calyx sides and thus hold the larger card in position. Upon this with the tweezers arrange that the lower row of guard petals should be laid over the edge of the two underneath so as to cover the divisions, the third row in like manner, till the centre of the flower is reached. This requires care and some practice, and, like all things done with grace and ease, looks much easier to do than it really is. Great care is required in handling the petals so as not to bruise or rip them. I would advise the beginner in dressing rather to do too little than too much, as many flowers are spoilt by overdressing.

FERTILISING AND SEED SAVING.

All growers of Carnations should aim at seed saving, one of the most interesting details in the cultivation of the Carnation, interesting on account

of fine dust, which can be easily removed from them by the point of a camel hair brush. Sometimes the pollen is difficult to find, and some sorts produce it with greater freedom than others. At midday, when bright and fine, the pollen should be found in proper condition. With the point of the camel hair brush remove a small portion of the pollen and touch with it the point and upper end of the pistils of the bloom you wish to fertilise. If the operation is successful in a day or two the flower will close. When the petals are dead, after fertilisation, they should be pulled out from the calyx carefully to admit air to the seed pod. Care must be taken not to pull away the pistil. Split down the calyx so that no wet can lodge therein.

CLASSIFICATION OF FLOWERS.

We may consider briefly the characteristics of the various sections of the flowers. The bizarres have two colours, disposed lengthways on the white ground, and are sub-divided, according to the dominant colours, into scarlet, crimson, and pink and purple bizarres. The flakes have one colour laid lengthways on the white ground, and are classed into scarlet, rose, and purple flakes. Picotees have the colour placed upon the edge of the petals, and are classed as red, purple, rose, and scarlet edges, and sub-divided, according to the depth of the colours, into heavy, medium, and light edge. A section embraced by the term of fancy takes in all flowers with markings on coloured grounds, and also those indefinitely marked on the white ground. Self flowers are of one colour, and embrace almost every shade or tint.

of its many failures and its unexpected successes and useful experiences which it affords. No lover of this flower has any conception of the interest these flowers are able to afford until he looks forward every year to the flowering of his batch of seedlings. The interest is also increased when the grower is able to sow seed which he himself has fertilised. If we wish to produce seedlings of superior excellence we should select the finest flower of sorts in cultivation. Flowers with too many petals should be avoided, taking care to cross scarlet bizarres with scarlet bizarres, crimson with crimson, and so on. If crossed indiscriminately the result will not be satisfactory. The pistils are in the form of two or sometimes three horns, called styles, which spring from the apex of the seed pod when ready for fertilising. These will be found somewhat curled and slightly rough. Until they are well up they are not ready for the pollen. This is found among the petals and on the anthers in the form

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THE FERN GARDEN.

THE ASPLENIUMS.

(SPLEENWORTS.)

OUR British Spleenworts embrace no less than ten species, including *Ceterach officinarum*, which undoubtedly belongs to the family; hence no other genus is so well represented. For the purposes of this list, however, the majority of these species are valueless, the varieties being unimportant. We may, therefore, dismiss at once *Asplenium ruta-muraria*, *A. germanicum*, *A. fontanum*, *A. viride*, *A. septentrionale*, and *A. lanceolatum* with the remark that as denizens of old walls in exposed positions, or, in the case of *A. viride*, of sheltered nooks, in rocks (limestone for preference) by stream sides, or on the mountain tops, their culture is not of the easiest. In pans, however, practically filled with drainage material mixed with leaf-mould and limestone rubble, and placed near the glass, we have seen good specimens established, but we ourselves have succeeded best by excavating a hole about a foot deep and a yard in diameter in a Fern-bed facing the north, making a station of limy, rubbly material on the bottom of it, facing it all round with rough pieces of limestone, on the chinks of which the plants were inserted. A large bell-glass supported by stones covered the whole in such a way that air had free access beneath it. This fairly representing natural conditions, the bell-glass protecting the plants from soot and dust of a London garden, the Spleenworts thrive and flourished. A shallow, glazed frame on the same principle would serve for a larger number, or such stations could be multiplied. The greatest danger with the family seems to be the deposition of moisture on the fronds for any length of time, as they are then very apt to rot and go wrong. *A. ruta-muraria* figures in Mr. Lowe's book for sixteen varieties, but none of them rank as choice things. *A. viride* has yielded twelve, to which may be added a charming dwarf imbricatum found by the Rev. Mr. McLean, Aberfeldy, and sent to the writer years ago, but long since defunct. The varieties, however, like the normal form, are extremely difficult to establish, and we are not sufficiently sure of the existence of any to be able to add them to our list. *A. septentrionale* and *A. germanicum* have done nothing. *A. fontanum* is in itself a little beauty; the only variety worth notice is *refractum*, a curiously lengthened edition with bulbils on base of fronds. *A. lanceolatum* has yielded the curious *A. l. microdon*, a barren form, considered by some to be a hybrid with *A. marinum*, large, confluent pinnae. A beautifully crested form was found abroad by Mr. Boyd, but this, we fear, no longer exists. Other forms are recorded, but none of value. All the species are thorough evergreens. To come now to the species which afford us really good material, we may start with

THE MAIDEN-HAIR SPLEENWORT (*A. TRICHOMANES*).

This pretty species is very widely distributed, and is found on old walls, on stony dykes and hedgebanks, and on rocks. Its fronds are simply pinnate, the black midrib sometimes over a foot in length, but usually about half that size, bearing two fairly even rows of oval-stalked divisions, on the backs of which the linear fructification of the species appears. Culture as previously indicated. The chief superficial difference between this and *A. viride* is that the latter has a light green midrib, to which, moreover, the pinnae are firmly attached in life and death, while those of *A. trichomanes* fall off when decay sets in. *A. trichomanes* has been fairly generous in varieties, especially

since the whole family is chary of change. The following are the best :—

Name.	Where Found.	Finder or Raiser and Date.	Description.
hipinnatum	Wales	Roberts	A remarkable form, in which the pinnae in robust plants are pinnate, like small fronds.
confuens	Sta-Levens	Stabler (1870)	A presumed hybrid between <i>A. trichomanes</i> and <i>A. marinum</i> , doubted, however, by many. Fronds large and leathery, and confluent at tips.
"	Whithy Ireland	W. Willson P.N. Fraser (1875)	Upper half of frond confluent.
"	"	W. Forster	Identical with <i>Stableri's</i> find.
cristatum	Various	J.J. Smithies	Head divided into more or less ramose tassels.
corymbiferum	Cusnig Gill	R.C. Brown	Bunch crested
"	thwaite	Barnes	
Harovii	....	Wollaston Col. Jones E. J. Lowe	Small, serrate pinnae, fronds narrow.
imbricatum	Knareshore	Clapham (1863)	Pinnae very large and overlapping, confluent at frond tips; a little like <i>confuens</i> .
incisum	Clapham	Yorkshire (1859)	The finest plumose form; pinnae very large, deeply cut, and overlapping. A gem.
"	Somerset	Latham	
"	Various	Various	Similar plumose forms, but not so foliose. All are barren and true plumosums, except one found in Glamorgan.
laciniatum	Co. Clare	Stansfield (1863)	A lacinate incisum.
Moulei	Devon	Moule	Resembles <i>Harovii</i> , but more deeply incised.
multifidum	Various	Various	Ranks with <i>crisatum</i> .
ramo-cristatum	Cornwall	Sargeant (1861)	Very broad-headed <i>crisatum</i> .
ramosum	Cardigan	Patey (1873)	Fronds repeatedly branched.
troygyense	Wentwood	Lowe (1882)	A fine, deeply-cut form.

THE BLACK MAIDEN-HAIR SPLENORWORT (*A. ADIANTUM NIGRUM*).

This species is quite distinct from any other; long, black stems and twice-divided triangular, somewhat leathery fronds; habitats, old walls and dykes, and also hedge-banks, assuming its largest size in shady lanes; soil more leafy than with the other species.

Name.	Where Found.	Finder or Raiser and Date.	Description.
acutum	Various	Various	Normally <i>A. a. nigrum</i> varies much in relative bluntness or acuteness of terminals; the warmer the climate, apparently the more acute and slender the divisions. Good forms of <i>acutum</i> are very handsome.
grandiceps	Ilfracombe	R.A. Thompson (1865)	Two very similar forms with heavy, spreading, fan-like crests on frond; terminal pinnae few and flabellate. The Devonshire form has the pinnae more in evidence.
"	Waterford	Rev. T. Smith (1865)	
microdon	Ashburton	Bickford Richards	Large, confluent pinnae; a presumed hybrid between this species and <i>A. marinum</i> , but also open to doubt, Ashburton lying inland far from <i>A. marinum</i> influence.

THE SEA SPLENORWORT (*ASPLENIUM MARINUM*).

A tenant of sea caves and rocks adjacent, thriving in spots which must often be drenched with brine. The once-divided fronds are tough, leathery, and evergreen, but the Fern is nevertheless tender, and will stand but little frost. On the other hand,

it thrives under warm culture, and we have seen it in ainery at Kew with grand 2-foot fronds, forming a huge plant 1 yard through and 2 feet high. Hence, despite its native origin, it will well repay exotic treatment. There are several varieties, but for ornamental purposes we can only recommend :

Name.	Where Found.	Finder or Raiser and Date.	Description.
<i>A. m. imbricatum</i>	Lowe	....	A distinct, dense form.
<i>A. m. plumosum</i>	....	....	A thoroughbred plumose, twice-divided, and robust form, barren and rare.
<i>A. m. ramo-trapeziforme</i>	Scarborough	Clapham	A ramo-cristate form.

THE SCALY SPLENORWORT (*CETERACH OFFICINARUM* ASP. *CETERACH*).

A lover of the sunny side of ancient walls, where it revels on old mortar pure and simple. It is a pretty little Fern with dark olive-green, leathery, once-divided fronds of a long, oval shape, with broad, blunt pinnae, sometimes crenate, and thickly clothed on the back with dense, brown scales. It withstands drought to almost any extent, surviving actual shrivelling for months, and yet reviving, when subsequently soaked, like a true tropical species. A number of forms have been found, mainly in Ireland. The best are :

Name.	Where Found.	Finder or Raiser and Date.	Description.
<i>crisatum</i>	Co. Clare	O'Kelly	Neatly fan-tasselled.
<i>grandiceps</i>	"	"	More heavily tasselled.
<i>multifidocrisatum</i>	"	O'Kelly	Multifidly crested.
<i>ramoso-crisatum</i>	"	A. Wise	Branched and tasselled.

C. T. DRURY.



THE WALL RUE (*ASPLENIUM RUTA-MURARIA*).

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

FOR the next few weeks the planting out of the many more or less tender plants that have been wintered under glass or raised from seeds this spring will claim attention. By beginning early with the hardier subjects and going steadily on with the work instead of leaving all to be done with a rush towards the end of the month, not only is the planting better done, but the earliest planted things get a good root hold while the soil is still cool and moist, and will not need nearly so much attention with the water-pot or hose as they would if planted later.

SCARLET LOBELIAS.

These are among the first plants that may safely be planted out, for if they have been fairly hardened they will not be likely to suffer from any frosts that we may now expect. They enjoy a rich soil, and should always be planted in the moist part of the garden; indeed, they much prefer a swampy bit of ground. I think I have before remarked that, for long and late flowering, seedlings are far better than plants raised by division, and as they come almost true from seed there need be no fear of an obnoxious mixture of colour. It is full early to sow seeds for next year's batch, but it should not be delayed much longer, as the seedlings grow but slowly and the seeds lose their germinating powers if left too long in the packets. They germinate best in a cold, shaded frame, and may be grown in shade throughout the summer, pricking them off into shallow boxes in the autumn in time to get well established before winter.

PANSIES.

The tutted *Violas* have to a certain extent ousted the Pansies for flower garden work, but of the latter there are some good strains on the market that flower very well as annuals. Any such raised under glass should be planted out now, choosing for them a shady border and a well-manured cool soil.

DAHLIAS.

In some gardens it is impossible for want of room to start the old stools or to raise a stock of cuttings under glass, and one is perforce bound to plant them out in the dry condition in which they have been wintered. This may be done now, burying the stools some 3 inches deep, so that the young growths may not come through the soil too soon. Any precocious shoots should be watched for and protected not

only from frost but also from slugs, which are sure to be ready to eat them unless a protective ring of lime or soot bar the way. J. C. TALLACK.

Shipley Hall Gardens, Derby.

FRUIT GARDEN.

FORCED STRAWBERRIES.

THE earliest forced fruits have in our own case been better than usual, and though the culture has been somewhat similar we gave the plants more time at the start, and by having stronger bloom the fruits are superior. I note the latter point, as even now at this advanced season of forcing the same practice holds good; it is a great gain to force slowly at the start and secure a healthy site. Much may now be done with successional crops to obtain the best flavour, and it is considered that with ample sun heat the flavour is secured, but it should be borne in mind that the sun heat causes a greater demand upon the water-pot, and plants in full vigour carrying a lot of fruit so soon get dried, especially when growing on elevated shelves that lack of moisture will soon tell its tale, the flavour is greatly impaired, and, what is so harmful, the foliage and fruit also soon get infested with red spider, and the fruits cease to swell. Many growers advise standing fruiting plants in saucers; I do not, as excess of water also affects flavour. It is a safe plan to feed freely and not allow plants to suffer for want of food or moisture, but not to stand the roots in water. I also advise syringing freely after bright sunshine till the fruits are colouring, then cease (feeding also is best discontinued), and if possible lower the temperature, and by so doing firmer fruit and better colour will be secured.

The old objection that forced Strawberries are poor insipid things is now a thing of the past; in most gardens with care in cultivation both size and flavour compare most favourably with open ground fruits. The difficulty with plants giving a supply from the middle of May till the middle of June is that on dry exposed shelves much labour is entailed in feeding and watering. This can be avoided. In our own case, for the supply at the season named, we place our plants on a cool, hard coal ash bottom. These plants are now (April 25), being got in from the open, and are showing the trusses freely; the forcing structures are low pits, and these plants will keep us going till the earliest in the open ground turn in. Our latest batch are the Royal Sovereign, and we find nothing to beat it for mid-season and late supplies, and for early June fruits cold frames are valuable, as the plants grown near the glass do grandly. G. WYTHES.

Syon House Gardens, Brentford.

CHRYSANTHEMUMS.

THE improved state of the weather has had a most beneficial effect on Chrysanthemums of all sections, and in all stages of their growth, late or early, and they will now quickly assume, with good treatment, that healthy and robust appearance which they should do at this season. All should now be arranged in the open in sheltered positions, but protected at night whenever frost is likely to occur. If for want of space they have been crowded together, stand them out thinly so that the sun and air can reach them unchecked. Drawn up, spindly growth must be particularly avoided at this season to produce blooms of the highest quality. As I have often pointed out the growth should be built up solid and slowly from the beginning, consequently, every encouragement should be afforded them to this end. Examine the plants at least twice daily, and in bright drying weather three times. The earliest potted plants will now have pretty well filled their pots with roots, but I do not advise putting into the flowering pots before the end of May; should any, through being pot bound, appear to be in a starved condition, small doses of manure water will do no harm; just sufficient to keep them going till they are shifted on, and any varieties which are persistent in showing bud, if pot bound, will also be much assisted into growth by giving them a moderate amount of stimulant when in 6-inch pots.

Pick out the buds as fast as they appear, and syringe freely in bright weather twice daily. Specimen plants should by now have formed their foundation and be potted on as the pots become filled with roots. Stop and train out the shoots, allowing them as much as possible to assume as natural a habit as is consistent with a trained plant. Select an open sunny position on a south border if possible, partly plunge the pots, placing the bottom on slates, dust the under part of the foliage with black sulphur to prevent mildew gaining a foothold, or the appearance of the plants will be much marred at the flowering season as well as the quality of the blooms. Standard specimens should receive the same kind of treatment, making sure that the heads are thoroughly secure against wind.

Border varieties, which were propagated in cold frames, should ere now have rooted freely and made nice little plants; pinch out the points to induce them to make a sturdy bushy growth. These may be planted out with safety any time after this date on well-prepared ground, after which, except keeping them well supplied with water, and attending to tying, mulching, and staking, little other attention will be required. I believe these have a great future, as they adapt themselves readily for many purposes, either for brightening up the shrubby borders, bedding in the flower garden, or perhaps seen to the best advantage when massed together on a fairly wide border in a sheltered position by themselves.

E. BECKETT.

Aldenharn House Gardens, Elstree, Herts.

KITCHEN GARDEN.

ADVANTAGE should be taken of fine weather to destroy as many weeds as possible by the careful use of the Dutch hoe between the rows of spring-sown crops as soon as the young plants are large enough to be seen. Frequent stirring of the soil in this way is of great advantage to young crops, and should be practised as often as possible. Spring Cabbage will have taken the place of ordinary sprouting greens, so the stumps of these should be cleared from the ground at once and preparation made for planting the latest batch of Potatoes. A good dressing of a Potato manure should be given to such ground at the time of planting, and repeated before earthing up the plants. But the principal sowing may be made within the next fortnight on ground well dug and prepared for the purpose, but no manure must be given or the roots will become large and rough. This crop should be sown in drills 15 inches apart and 1 inch deep, and covered lightly with fine soil. If the soil is of a rich nature sowing may be put off for a week longer or the roots may have grown too large before the time arrives for lifting the crop in the autumn. Egyptian or Turnip-rooted Beet must be thinned as soon as large enough, and kept growing freely so that it may be ready to pull before the old roots have become unfit for use. Now is the best time to make fresh

PLANTATIONS OF MINT,

light, rich soil being best suited for the purpose. The cuttings may be taken from existing beds and planted singly in rows 1 foot apart with an ordinary dibber. Plants grown in this way give the best results, and, where largely grown in winter, can easily be lifted and the roots shaken out, afterwards placed closely together either in a pit or in boxes, according to the requirement of the place.

SPINACH

should be sown frequently, and as the season advances a north border should be set apart for its cultivation in order to avoid as far as possible the ill effect of strong sun. Victoria is the best variety for sowing now, and should be sown thinly or the constitution of the plants will be less robust, and almost certain to lead to disappointment. New Zealand Spinach is an excellent substitute for the above in hot seasons, and should be sown in every garden where an unbroken supply is desired. It produces an abundance of succulent leaves during the very

warmest weather, and is, in my opinion, quite indispensable. A sowing of this should be made now in drills 5 feet apart, and the seeds need not be closer together than 3 feet, two or three seeds being placed together and the plants thinned out singly as soon as established. If the soil is dry at the time of sowing the seed the drills should be saturated with clear water before the seeds are put in. These plants will spread a considerable distance and produce an abundance of dark green leaves the summer through.

RUNNER BEANS

may be sown at once in good rich soil. The rows should be 7 feet apart, and the distance from plant to plant 18 inches. A few seeds may be placed in pots a week later and stood in a cold frame to make good any blanks caused through slugs or other pests. Mont d'Or, the climbing Butter Bean, may also be sown now and treated in the same way as Scarlet Runners, but 5 feet between the rows will be sufficient.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

INDOOR GARDEN.

EGG PLANT.

THOUGH not frequently seen, this makes a very interesting plant for either greenhouse or conservatory, and though by no means a novelty it is a source of attraction to many. Seed sown as advised, duly pricked off singly into small pots and pushed forward in heat, will now bear to be put into 4½-inch pots, it being borne in mind that this subject revels in abundant root room. Soil of a rich and porous nature must now and at subsequent transplantings be given, and not pressed too firmly about the roots. A position while in the growing state must be given it in a warm house, and, while delighting in a moist atmosphere, it resents too much water at the root. There are several colours of eggs, but the white is, I think, the most popular colour. Red spider is sometimes apt to make its appearance, and must be guarded against.

BALSAMS.

These also make a very agreeable change in the flowering quarters, and when well grown must by no means be overlooked. Conditions similar to the foregoing are recommended, though, after a fair start is given under warm conditions, they should be put into an intermediate temperature; this will induce a more compact habit of growth.

SOLANUMS.

For autumn decoration these are invaluable, and their association with other subjects in the conservatory gives a variety and brilliancy to the whole which would be wanting with these and their cousins the Capsicum. Treatment as for the Balsam will answer admirably, only that in potting the soil should be better pressed home. Green fly must be kept in check by frequent fumigations, as if once the foliage gets spoiled the picture is at once damaged.

SEADINGS.

The sudden change from abnormally cold, wet, and sunless weather to an unusually bright and warm spell has hastened the operation of affixing the necessary shadings. There are various forms of protecting plant life under glass from the fierce glare of the sun, but none are in my opinion equal or so satisfactorily efficient as the well-known roller blind. A continuous shading, unless for Palms, I am strongly against, for even with the very hottest of summers we have cloudy and wet days at intervals, and to anyone who studies plant life under glass closely they will readily agree that in these days they observe that vegetation is more active than in a bright day when the shading is on the roof. A fairly thick shading is needed for flowering houses, Caladiums, Dracenas, and structures containing fine-foliaged plants generally, except, of course, Crotons. Growing quarters, on the other hand, should be provided with a much thinner material, as in these structures there is less glass surface, and more air as a rule is required. In these roller blinds, unless on



THE NEW HYBRID TEA ROSE KILLARNEY.

pit houses, will be unpracticable, but a thin shading should be laid on and secured at either end with rings and hooks.

J. F. McLEOD.

Dover House Gardens, Southampton.

ORCHIDS.

THE genus *Cymbidium* contains a number of handsome Orchids, free blooming and of easy culture, forming grand subjects for exhibition. Those mentioned are some of the most beautiful spring-flowering Orchids, *Cymbidium eburneum*, *Cymbidium lowianum*, *Cymbidium eburneo-lowianum*, and *Cymbidium lowio-eburneum*, the two latter being handsome hybrids, offspring of the two preceding species. The three last-named are strong and vigorous, producing large and fleshy roots, and in consequence require to be grown in large pots. *Cymbidium eburneum*, though not so strong a grower, produces an abundance of roots, and should by no means be confined to small pots. As soon as the plants have finished blooming they will again commence to grow, and should then be repotted if requiring more rooting space. Use clean pots of sufficient size when repotting to allow the plants to grow on undisturbed for two or three years. Drainage should be laid to the depth of about 2 inches. Place over this a thin layer of Moss, and put the plant in the pot so that the base of the young growth is level with the compost and a little below the rim of the pot. Peat, sphagnum moss, and fibrous loam in equal proportions form the most suitable compost. Press it moderately firm. Apply water somewhat sparingly until the new roots have well taken to the fresh material. As soon as the plants have become well rooted and are well advanced in growth, an occasional watering with clear, weak liquid farmyard manure is beneficial. The plants should be grown in a cool intermediate house, the

temperature ranging about 55° by night and 60° by day, by fire heat during winter and correspondingly higher during summer. The house should be well shaded and air freely admitted on all favourable occasions; the less fire heat applied the better it is for the plants so long as the above temperature is maintained.

MILTONIA ROEZLII

is one of the most beautiful of the genus, requiring a warm humid atmosphere, a temperature ranging from 60° to 65° by night and 65° to 70° by day, by fire heat during winter, 65° to 70° by night and 70° to 75° by day during spring, summer, and autumn, rising considerably above these figures by sun heat. The plants should be grown in a light position near the glass, and well shaded from the sun at all times. *Miltonia Roezlii* is somewhat subject to the attack of thrips, which soon disfigure the foliage if allowed to accumulate. It should therefore be frequently examined, and the house fumigated with Richards' XL vapouriser upon the first indication of the pest.

REPOTTING.

As soon as the plants have finished blooming and commence to grow,

any necessary potting should be done. Clean pots two-thirds filled with clean crocks are essential, and the plants should be raised a little above the rim of the pot. Peat and Moss should be used as compost and very little placed about their roots.

CELOGYNE DAYANA

is now producing its long pendulous inflorescence from the centre of the young growths. It often bears from forty to fifty flowers. This species though not showy is peculiarly interesting, being a native of Borneo. It requires a warm temperature, and should therefore be grown in a shady position in the stove or at the warmest end of the Cattleya house. Any necessary repotting may be done as soon as the flowers have faded, performing this operation in the same way as with other epiphytal species.

F. W. THURGOOD.

THE HYBRID TEA ROSE KILLARNEY.

THIS is one of the many beautiful Roses raised by Messrs. Dickson, of Newtownards, Belfast, Ireland. It is fast becoming a popular garden Rose, and its flowers are of great charm, flesh-white and pink, a medley of soft hues, while the long buds expand into a blossom of artless form, semi-double—flowers, indeed, composed of petals flung about anyhow, bits of colour on long stalks. We have seen the Killarney Rose on many occasions, and always with delight.

The Temple Show.—We are reminded by the schedule of the Royal Horticultural Society's great annual show that the interesting event is not far off. It takes place on the 22nd inst. and two following days in the Inner Temple Gardens, and we hope will be favoured with summer-like weather.

THE KITCHEN GARDEN. CLIMBING OR RUNNER BEANS.

PREPARATIONS for this important kitchen garden crop must shortly be taken in hand. Few things pay for generous treatment more than the Runner Bean, and few vegetables are more highly esteemed and appreciated during the summer and autumn when presented in their best condition. Very often the specimens we see offered for sale at the greengrocer's shop are poor in the extreme and not worth eating, due chiefly to poorly cultivated land; consequently, the pods grow slowly, and before they are properly developed become old and stringy. Rich and deeply-cultivated ground is absolutely essential for the production of fleshy, succulent pods. For some years past I have practised

SOWING THE SEED

in boxes, and transplanting when ready. I find this system a great gain, for not only are the young plants safe against snails and slugs, and at the same time can be protected against the sudden spell of frosts, but the slight check which the plants receive when planted out is conducive to early bearing, making ten days or a fortnight's difference in this respect. The first week in May will be quite early enough to make the first sowing. The boxes should be about 4 inches in depth, using a compost of light loam and leaf-soil in equal parts. The seed should be raised in quite a cool house or frame. Give air freely immediately they are above the ground, and gradually harden off in a sheltered position prior to planting out. The Runner Bean does much better when planted in deeply prepared trenches, and a good deep root-run must be ensured. The trenches should be taken out at least 2 feet in depth, and the bottom soil thoroughly broken up. The trench should be three parts filled with good half-decayed farmyard manure, filling up the remainder of the trench with some of the best soil taken out. Make this almost level, leaving plenty of channel for watering. The rows should be 10 feet apart; nothing is gained by overcrowding, either in the rows or between the plants. A double line of plants should be grown in each trench at a distance of 8 inches from plant to plant, and 10 inches between the lines. Stretch a line down the centre, and plant with a dibber, putting in the plants right up to the seed-leaf. Staking should be done at the same time. Procure some extra strong stakes, similar to those used for tall Peas, but longer if possible, and at about every 10 yards drive in some strong stakes thoroughly firm, and stretch lines of stout tar cord along each side of the row, which will ensure them being kept in an upright position, which is necessary to attain the best results. Thoroughly mulch the rows with good manure during summer. Apply weak doses of some good patent manure and soot about every ten days. Water freely during spells of dry weather, and the plants will be much benefited by thoroughly syringing in the afternoon on hot days, and the Beans will set more freely. Unless wanted for seeding, the pods should be kept closely picked, when the plants will continue to bear freely until frost puts an end to them in the autumn.

VARIETIES.

Few vegetables have been improved more during recent years than the Runner Bean, and though the old form of Scarlet Runner and Painted Lady are still preserved and grown by some, these are fast making way for the better kinds, and must, I feel sure, soon become varieties of the past. One of the first to claim attention is Neal's Ne Plus Ultra, an extremely handsome kind, but unfortunately not so free bearing as one could wish. Best of All is the best variety that has come under my notice, for not only is it of striking appearance, but it is very prolific, and the quality all one can desire; it is excellent for any purpose.

Among white flowered kinds, Jubilee stands unrivalled, producing pods of great length and very symmetrical. Very fine for exhibition.

The new climbing French Beans are yearly gaining favour, and for delicacy of flavour are unsurpassed. The pods must be picked when quite young, or, like the French Bean, they soon become stringy. There are now several kinds in commerce, but I have found none better than Tender and True. A small quantity of these should certainly be grown in all large private gardens, and especially where French Beans are in request.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

TOMATO CHISWICK PEACH.

THOSE desirous of having a Tomato of the finest flavour should get Chiswick Peach. Many persons are prejudiced against it simply because of its appearance, but any disadvantage in this direction is more than compensated for by the splendid flavour of the fruits for dessert. No doubt it is of equal excellence when cooked, but so far I have not tested it in this direction, as the few fruits at command have been promptly eaten like an Apple. The variety is a grand cropper indoors, and may, of course, succeed well out of doors. I believe Messrs. Veitch and Sons, who are distributing the stock, found it crop well in the open last season, but its real qualities for this purpose have yet to be proved. W.

A CROCUS LAWN.

IN that picturesque suburb of Birmingham, Edgbaston, the garden of Mr. Frederick M. Mole, in Westfield Road, is one of the most interesting in a district full of pretty gardens, and the most remarkable feature of that in question is the lawn which, as shown in our illustration, is planted thickly with Crocuses, and these when in full flower are remarkably pretty. Mr. Mole is good enough to throw open his garden every year at Crocus time to all interested, a privilege which is fully appreciated.

NEW AND RARE PLANTS.

THE following obtained the award of merit from the Royal Horticultural Society on the 23rd ult. :—

ARABIS AUBRIETIODES.—A charming addition to good hardy things, having the habit of growth of the Arabis, and with rosy coloured flowers of pretty shape. A welcome rock or garden plant for any purpose. From Miss Willmott, Warley Place, also

IRIS WILLMOTTIANA.—Briefly, this may be likened to a blue form of *I. orchoides*; indeed, in effect it is so, and a most valuable acquisition. It is very free, and apparently quite vigorous.

PRIMULA VISCOSA MRS. J. H. WILSON.—This is almost a blue form of *P. viscosa* with white eye. A very pretty rock plant from Mr. J. H. Wilson, Handsworth, Sheffield.

BERBERIS CONGESTIFOLIA HAKEOIDES.—A yellow-flowered species from Japan. The flowers are closely borne in conglomerate heads against the stems or branches. A distinct kind. From Messrs. James Veitch and Sons, Limited, Chelsea.

CARNATION MAY.—A border kind with large and pure white flowers of beautiful shape and sweet scent. From Messrs. James and Son, Farnham Royal, Slough.

PRIMULA OBCONICA (the strain).—A charming series of colours, some quite rose coloured, very dainty and distinct. From the Marchioness of Breadalbane, Kenmare.

ERYTHRONIUM GIGANTEUM VAR. **HARTWEGII.**—A very showy form; the flowers white with pale yellow base. From Mr. H. J. Elwes, Colesbourne, Gloucestershire.

RHODODENDRON AUCKLANDI VAR. **F. D. GODMAN.**—A very fine form, with almost pyramidal heads of nearly pure white flowers, but with a suspicion of pink. It is showy and very beautiful. From Mr. F. D. Godman, South Godstone, Horsham.

LÆLIO-CATTLEYA CYBELE.—This beautiful new

hybrid was obtained between *Lælia elegans* and *Cattleya Trianae*, the former being the pollen-bearing parent. The flowers are large, the sepals and petals very pale blush, almost white in fact, except for a tinge of colour around their margins. The lip is marked with a rich purple-crimson, the lower part of the throat being sulphur-yellow. Exhibited by Messrs. James Veitch and Sons, Limited, Chelsea.

ODONTOGLOSSUM ADRIANÆ CRAWSHAYANUM.—The flowers of this new *Odontoglossum* are somewhat small, the ground colour is pale yellow, heavily and beautifully marked with chocolate-red on the sepals, petals, and lip. The plant, exhibited by De B. Crawshay, Esq., Rosefield, Sevenoaks, was flowering for the first time since its introduction.

ODONTOGLOSSUM WILCKEANUM TURNFORD HALL VAR.—A large flower of considerable beauty of form and colour is this new *Odontoglossum*. The petals are prettily cut and frilled, the ground colour of the flower is yellow, the sepals are heavily marked with brownish-red, while the petals are but slightly spotted. Exhibited by

leaves showing few if any hairs. The flowers are 3 inches to 4 inches across, white suffused with rose, particularly on the outer side, with a lemon-coloured blotch at the base of the throat. The flowers are fragrant, but the fragrance is not so powerful as it is in *formosum*. The principal distinguishing mark between the two species is in the absence of calyx lobes in *formosum*, and the fine ciliated calyx of *ciliicalyx*. It has been cultivated at Kew for the last nine years, and has flowered on one or two occasions; at present a plant is to be seen in flower in the Himalayan house.

SARACA INDICA.

At the south end of the Palm house a specimen 18 feet to 20 feet high of this East Indian leguminous tree is now smothered with flowers, making a very striking object among the surrounding Palms, Cycads, and Brownseas. It is an old introduction, having been flowered many years ago in a garden near Liverpool, the plant having been grown from seeds collected by the Rev. Dr. Carey, of Serampore. Though it is credited with flowering freely when but 4 feet high, it is usually much



CROCUSES IN A BIRMINGHAM GARDEN.

Mr. T. Rochford, Turnford Hall Nurseries, Broxbourne, Herts.

ODONTOGLOSSUM CRISPUM EDWARD VII.—This is a lovely flower of exquisite colouring. It is of good form, the ground colour being pure white suffused with pale blue tinge and spotted with a purplish red. The flowers are undoubtedly very symmetrical; a valuable addition to the newer *Odontoglossums*. Exhibited by Mr. T. Rochford.

KEW NOTES.

RHODODENDRON CILICALYX.

THIS is one of several species discovered in Tibet and Yunnan about fifteen years ago by the Abbé Delavay. Its nearest allies among the Himalayan species are *R. formosum* and *veitchianum*. It closely resembles these plants in several particulars. In size of flower it shows relationship to the latter, while in habit of growth and foliage no very distinct feature can be detected between it and the large leaved forms of *formosum*. The habit of the plant is rather loose, the leaves 4 inches to 5 inches long, covered with transparent glands and numerous hairs when young, losing both with age, very old

larger before many flowers are borne. Naturally it makes a much branched, medium sized tree with large pinnate leaves, the leaflets being from 9 inches to a foot long. The flowers are borne in dense corymbs from axillary buds, on young and old wood alike, the whole inflorescence more closely resembling that of an *Ixora* than of a leguminous plant. Individually the flowers are half an inch across, with a long thin tube, from which the long thread-like stamens protrude to the length of 1½ inches. The corolla is orange-yellow when it first opens, changing to orange-scarlet with age. The effectiveness of the inflorescence is added to by the rich purplish red stamens. It succeeds well at Kew in loamy soil, and enjoys the hot moist heat of the Palm house. During winter it is kept fairly dry to encourage flower production.

RHODODENDRON FORDII.

Attention was drawn to this dwarf evergreen plant last year when it was exhibited at the Drill Hall, by Messrs. Veitch, of Chelsea, on the occasion of its flowering for the first time in England. At the present time it is flowering at Kew, in the Himalayan house, and looks very distinct among the numerous species in its neighbourhood. It is a Chinese plant, and was discovered in Hong Kong

by Mr. Ford, the curator of the Hong Kong Botanical Garden, in honour of whom it is named, and who sent seeds of it to Kew in 1895. With the two species *Metternichii* and *Smirnowi*, it flowers in a small state, and in a few years from seeds. The leaves also in colour and texture are very similar to those of the two plants alluded to, being of much the same shade of green, with the dense tomentum on the underside. In shape they are quite different, those of *Fordii* broadening out to the apex, and the other two narrowing. The flowers are in small trusses. They are 2 inches across, white, suffused with rose, paler, but in some respects not unlike those of *Metternichii*. It is doubtful whether it will stand out of doors except in the most favoured localities, though it thrives in a cold house or frame. From its rate of growth it does not give the impression of ever attaining any great height, though it looks like making a wide spreading bush. W. DALLMORE.

OBITUARY.

THE LATE MR. D. T. FISH.

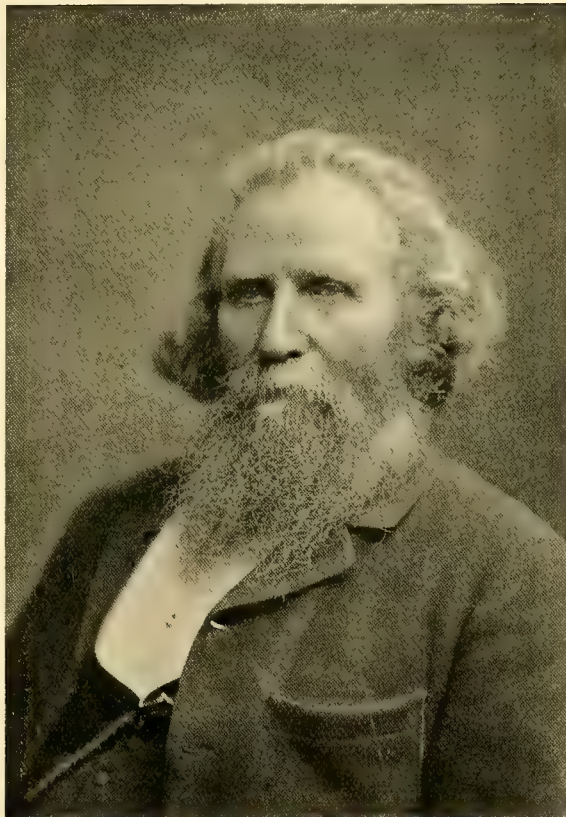
THE death of Mr. D. T. Fish removes from the ranks of the leading horticulturists of the last thirty years a notable personage. He was a man of ceaseless activity and almost untiring energy, at work almost up to the last; tongue and pen alike were employed in the promotion of the profession he loved so well and served so faithfully. Of his early years but scanty information is forthcoming. It is believed he commenced his horticultural career at Scone Palace, Perthshire; but what he did in the interval between this and his taking charge of the gardens of Hardwicke House, Bury St. Edmunds, the residence of Lady Cullum, we are unable to say. While at Hardwicke he came before the public as a writer on horticultural subjects, and also as an exhibitor at local exhibitions. He was one of the 110 jurors who awarded the prizes at the Great International Horticultural Exhibition held at South Kensington in 1866. It was in connection with the Royal Horticultural Society's first provincial show, held at Bury St. Edmunds, that Mr. Fish acquired considerable notoriety by acting as local secretary and materially assisting in obtaining special prizes and local contributions, and by taking an active part in the preliminary arrangements. He exhibited largely and was a successful prize winner, especially with Fuchsias, as he exhibited large pyramidal and standard specimens; show and French spotted Pelargoniums, fancy Pelargoniums, and also fruit. In recognition of the great services he rendered to the society over the Bury St. Edmunds show Mr. Fish was elected an honorary Fellow of the society.

While at Bury St. Edmunds he took considerable interest in local affairs, and was at one time a member of the corporation. On leaving Hardwicke he resided for some time in Bury St. Edmunds, and eventually went to Edinburgh to be near one of his sons, a student at the university. Meanwhile Mr. Fish was a prolific writer, most of the leading gardening papers publishing his articles. He was in request as a judge at horticultural exhibitions, and was a frequent lecturer in connection with technical education. He edited "Cassell's Popular Gardening," which was issued by Messrs. Cassell and Co. in four volumes, and for a few years past he supplied the gardening matter to the *Agricultural Economist*, published monthly by the Agricultural and Horticultural Association. He also contributed to the "One and All Gardening Annual" published by the same association. He was also prominently in evidence on the occasion of the flower shows held in connection with the National Co-operative Festival at the Crystal Palace. He was a fluent speaker, as well as a prolific writer; he possessed an attractive personality, and

gathered about him a host of friends. He leaves a widow and family to mourn his loss. R. DEAN.

DURING the few years of his retirement the late Mr. D. T. Fish was a well known figure at all horticultural functions in Edinburgh, though during the past nine or ten months through indifferent health he was not so regular in his attendance. He was one of the keenest gardeners, and kept in touch with most phases of horticulture until the last. B.

WILL you kindly permit me to lay this little chaplet of esteem and regard on the newly-made grave of this fine type of the British gardener and erudite writer on matters appertaining to the gentle art. I first became associated with him at



THE LATE MR. D. T. FISH.

the Royal Horticultural Society's first great provincial exhibition at Bury St. Edmunds, in 1867, of which he acted as local secretary. How splendidly and persistently he worked to make that exhibition what it proved to be—a great success both horticulturally and financially—in fact, for a time his health was impaired by his strenuous exertions! If my memory serves me rightly, he then exhibited specimen Fuchsias pyramidally trained in splendid style from Hardwick House, a beautiful demesne, and where he directed horticultural affairs at that period. Quo.

MR. JOHN THOMSON.

WE are very sorry to hear of the death of Mr. John Thomson, of the Tweed Vineyards, Clovenfords. Further reference to the sad event will be made next week.

MRS. J. R. BAKER.

WE desire to record our sympathy with Mr. J. G. Baker on the loss of his devoted and well-loved wife. Those who had the privilege of knowing the late Mrs. Baker can well understand how heavy

a blow has fallen on her family, while not only his more intimate personal friends, but the larger circle of those to whom he has always, with unflinching readiness and courtesy, given the benefit of information from his vast store of scientific knowledge, will feel deep sympathy with the veteran botanist in these his days of keenest sorrow.

Richmond Horticultural Society and the National Rose show.

—This well-known society is again adopting an active and progressive policy in regard to its forthcoming annual flower show. Last year the Royal Horticultural Society's council and committees were invited to Richmond, and were treated royally. This year the National Rose Society will hold its show in the Old Deer Park, Richmond, Surrey, on Wednesday, June 26, when an exceptionally large number of visitors and exhibitors is anticipated. Between the two societies about £300 will be offered in prize money, so that there is sure to be keen competition. Schedules have been already sent to former exhibitors, but the hon. secretary (Mr. C. R. King, 61, George Street, Richmond, Surrey) will be glad to post copies to other intending exhibitors for the June show.

The Royal Gardeners' Orphan Fund.

—We remind our readers that the annual dinner of this institution takes place on Tuesday next, at the Hotel Cecil, at 6.30 p.m. for 7 p.m., when the chair will be taken by the Hon. W. F. D. Smith, M.P.

Bristol Gardeners' Association.

—The third annual meeting of the association was held at St. John's Parish Room, Redland, on Thursday, April 25, Mr. G. Brook presiding. The report for the year ending April 1 was presented and adopted. It showed that the society was making steady progress, having a present total membership of over 100, the average attendance being about fifty. The meetings held during the year have been altogether of such a character as to warrant the existence in the neighbourhood of the association. The financial statement showed that, though on account of some extra expenditure there was a small deficit on the year, the balance still in the hands of the treasurer amounted to £4 12s. The president of the association is Mr. H. Cary Batten, the other officers elected being—chairman, Mr. A. J. Hancock; vice-chairmen, Messrs. E. Binfield and E. Poole, F.R.H.S.; hon. secretary and treasurer, Mr. W. Ellis Groves; assistant hon. secretary, Mr. H. Kitley. The committee for the year was also elected.

Double-flowered Peaches at Kew.

—A beautiful group of the double Peaches was in flower at Kew a few days ago. The centre was of the ordinary double form, trees quite 12 feet high, and round the margin were those of the variety *flore-rose-pleno*, which has darker-coloured flowers. From many points in the gardens this misty veil of pink could be enjoyed, a rare picture of colouring, unusual and distinct at this time, when the leaves are not sufficiently expanded upon the trees to hide the full effect of the rose-coloured flowers. *P. persica* (the Peach) is known also as *Persica vulgaris*, still a common name in nurseries, and *Amygdalus persica*. The species grows about 15 feet high, flowers towards the end of April and in early May, and has flowers of red colouring in various shades. The double varieties, however, make the best garden-flowering trees, and the colouring varies delightfully, sometimes a soft pink, and occasionally quite a rich rose. *P. p. flore-rose-pleno* represents many charming forms, the flowers bright and covering thickly the still leafless shoots. It is interesting to notice the slight variations in size and colour of the varieties grouped under *flore-rose-pleno* in a collection of Peaches. Of varieties given distinctive names, *magnifica* should be noted for its very large, deep carmine-coloured flowers. The double white-

flowered flore-albo-pleno is pretty, and the variety *foliis rubris* has single flowers and conspicuous purplish leaves, this leaf colouring constituting its chief merit.

EDITORS' TABLE.

At this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flowers so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they may be addressed either to Miss Jekyll, Munstead Wood, Godalming, or to Mr. E. T. Cook, 20, Tavistock Street, Covent Garden, London.

FLOWERS FOR ILLUSTRATION.—We shall be pleased if readers will send any rare or good garden flowers worthy of illustration to Mr. H. G. Moon, Herbert Lodge, St. Albans. This will assist us greatly in maintaining an interesting series of flower sketches.

CAMELLIAS OUT OF DOORS.

I enclose two blooms off an old plant growing outside the front of Sidcliff House. It has been there a great many years, and blooms every year as freely as if planted in a greenhouse. At present it is a mass of colour, though the best effect is over. This season, or rather winter, has been so cold and sunless that it has not done so well as usual, but there have been, and are, between 200 and 300 flowers.—A. H. TYRRELL, *Sidmouth*.

[With this note came some charming double Camellia blooms.—Eds.]

A GREEN PRIMROSE.

I beg to enclose the flower and leaf of a green Primrose which has grown for the last three years in one of my fields, the semi-double flowers are off the parent plant, the small single flower is off a plant that last year was transplanted into the garden. I shall be obliged if you will kindly let me know if you have seen a similar flower before?

I do not think it is only a "spoil," as there is another root in the woods a long way removed from the field where the parent root is growing, which I think goes to prove it is a distinct variety.

—CLAUDINE WELLESLEY.

[A very charming flower, quite unlike any we have seen, of a clear, pretty green colouring, and semi-double with broad outer petals.—Eds.]

NURSERY GARDENS.

MESSRS. BARR AND SONS.

IT is now the height of Daffodil time at Long Ditton, near Surbiton, although, instead of lasting six weeks, as is the case in most seasons, owing to the exceptionally hot weather lately experienced, the Narcissi will not have been at their best for more than three weeks this year. At the present time, however, the nursery grounds that for some distance border the London and South-Western Railway are a wonderful picture; the chief items in this striking floral display are contributed by Narcissus and Tulips in great variety, while Grape Hyacinths, Anemones, Primulas, and other bright spring flowers in lesser quantities add further variety. Amongst the last-named, Primrose Miss Massee, a beautiful flower, is noticeable; it is of the true Primrose form, a glowing crimson velvet in colour, having a yellow eye. Those with whom these charming, old-fashioned flowers are favourites would be delighted with this one. No less beautiful is the old blue Polyanthus close by Primula elatior cœrulea. With reference to the Dog's-tooth Violets (*Erythroniums*), which are now fast opening, we learned an interesting fact. Messrs. Barr find that they always thrive much better when planted from 6 inches to 9 inches deep, a point that is worth bearing in mind, and the reason probably is that the bulbs being so low are not affected at all by the heat of the sun, but remain amidst an equable temperature and moist surroundings. Tulipa Griegi, whose blooms are a delightful mixture of orange and vermilion, is now fully open, as also are Anemone robinsoniana, the pretty Mertensia virginica, and that splendid variety of Muscari conicum known as Heavenly Blue. This is an intense blue, and the plant has the advantage of apparently thriving anywhere.

Upon a hungry hedgebank, under several large trees, it is quite at home, and forms a beautiful covering where one would hardly expect to see anything but Daisies and Dandelions.

These, however, are but minor matters compared with the display made by the Daffodils in flower, and from which we will endeavour to single out a few of those of most general interest. *N. Stella superba* is one that is invaluable for cutting; the flowers are large and bold, with a beautiful yellow cup. *P. R. Barr* may be well described as an improved Emperor. It is of better shape, later, and also of dwarfer habit, and will in time doubtless prove a serious rival to the popularity of the latter. *Almira* is a charming variety of *N. poeticus ornatus*, while *Queen of Spain* is one of the best for both pot and border culture. *N. bicolor J. B. M. Camm*, to those who cannot afford to purchase bulbs of *Mme. de Graaff*, may be recommended as an excellent substitute. It has a cream-coloured trumpet and a perianth of somewhat paler colour, altogether a lovely flower. *N. Leedsi Katherine Spurrell* is also a good variety. The blooms are drooping, the perianth being white and the cup pale yellow. There is much to be said for the drooping kinds of Narcissi, although some declaim against them. For mantel decoration or for a raised table centre, drooping flowers are exactly what one wants, for it is only when seen from below that their full beauty is revealed. Those varieties of Narcissus that look one full in the face are at their best in some position where one can look down on them, as, for instance, in low vases or when growing out of doors.

Gloria Mundi has a yellow perianth and a cup of a beautiful orange tint; *Eliza Turk*, of quite dwarf habit, is a pretty yellow, best described, perhaps, as a pale canary. The almost white perianth and yellow, orange-tipped cup of *N. Dorothy Wemyss* attract one at once, and not without reason, for few Narcissi are more beautiful. *Princess Mary* is a good, bold flower, and has for its near neighbour *N. bicolor grandis*, a Narcissus that in an ordinary season is one of the latest to flower, but by reason of the almost unexampled hot weather of late April has been induced to open with the others. An excellent object-lesson, showing the results obtained from bulbs planted so late as January last, is now furnished by a number of such Narcissus now in flower. It goes to prove, at any rate, that it is not absolutely necessary that bulbs should be planted in the early autumn to produce flowers the following spring, although no one would of course think of postponing planting were it possible to do this early. Those, however, who are sometimes unable to plant their bulbs as early in the autumn as they could wish need not fear an absence of flowers if this is not done until January, for those in Messrs. Barr's nursery, although not so good as the ones planted earlier, are, at all events, very satisfactory. In *N. bicolor Victoria* we have one of the best of the bicolors, and *N. incomparabilis Beauty* is also worthy of note. *N. odoratus rugulosus* has very much to recommend it. It is sweetly scented and free-flowering, bearing bright yellow blooms that show particularly well against the dark rush-leaved foliage. *N. Leedsi Mrs. Langtry* is too well known to need description, but it must be said that it still remains one of the best, the bright lemon-edged cup being both distinct and beautiful. *N. C. W. Cowan*, a pale primrose-yellow throughout, is a flower of great beauty, as also is *Burbidgei John Bain*, with a white perianth and small yellow cup.

In addition to the masses of colour furnished by such a number of varieties of Narcissi, the Tulips also in lesser numbers are represented by the best varieties, and add more brilliancy to this unique spring picture, which is still further enriched by the tints of numerous other flowers, none, however, more strikingly beautiful than the variety of Grape Hyacinth already alluded to, i.e., the one known by the name of Heavenly Blue.



DAFFODIL TIME IN MESSRS. BARR'S NURSERY.

THE GARDEN.

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SELECTION AND DISCRIMINATION.

ONE of the many things that have to be learnt in the garden is to know what makes one plant or flower better or worse than another. If it is of course impossible to say which is the better or the worse of two wholly different kinds of flowers, for each may be right and the best possible thing in a certain place, or as one item in some particular grouping or combination. But in such a case as a bed of 5,000 or 6,000 Primroses or Polyanthus, so to train the eye to recognise good quality at once is a matter that comes as a part of the almost unconscious self-education of the observant gardener. Much can be done in the earlier stages by the help of an expert, but when it comes to refinements of judgment and sound and critical appreciation, the power can only be formed by a long course of individual observation. In presence of such a bed of seedlings the trained eye sees the good things at once, just as the art critic, on entering an exhibition of pictures, can see at a glance which are those that deserve closer examination.

But the learner must begin at the beginning. His eye will first be caught by the brightest colour and the plants most crowded with bloom. If the bright-coloured plant has other good qualities, it may prove to be one of the best, though even good colour may be marred by bad habit or some other structural defect. But for a gardener plant the most important thing to determine will be whether it is a good thing as a whole, for some plants of good size and colour and beautiful individual bloom may have a stem that is weak and straggly and a bad shaped truss, or some other condemning defect. It will not do to let judgment run into the other extreme. Many plants are beautiful in the garden that are not up to the standard of the show board. It should be remembered that though many may be good in both places, yet, just as surely as it is true that much that is good in the garden is inadmissible in the show, so also the show standard is not by any means necessarily that of the garden, for many a garden plant that is beautiful in the mass and in free grouping, lacks the show quality of compactness and perfection of individual bloom.

Gardeners especially should remember that show standards, so necessary in their place when the flowers are judged for specific

qualities and for show purposes, and are to be seen close to the eye, are not applicable to all plants. They are apt to conclude that because a quality is judged best in the show that it is necessarily best in the garden. That this is not the case may be seen by the fact that of numbers of indispensable garden plants a great many are never seen in shows, or only as bunches in miscellaneous exhibits. It does not, therefore, follow that these are not good things in their place; it only proves that while they may be of the utmost importance in the garden, they concern the garden and not the show.

So in the great Primrose beds the trained eye sees here and there a plant that is good all round, if there is a learner present he will be told why. The plant has a sufficient number of handsome trusses carried strongly; the leaves are strong and bold without being coarse, and of the true Primrose character. In garden Primroses, especially in the large bunch kinds, the handsomest leaves are generally those that have good breadth and a lively colour and are strongly waved at the margin; a coarse weak leaf may spoil an otherwise good plant. In this class of Primrose the leaves show a remarkable variety of aspect. Some can hardly be distinguished from Foxglove leaves, while others are like leaves of Dandelion; some are carried nearly upright, others almost flat; some are succulent and of a bright shining green, like a Cabbage Lettuce; some are dull of surface and of a low-toned greyish green.

Then the variety in the character of the flower is almost infinite. There are round flat flowers like a florist's Auricula, and there are flowers with toothed and almost fringed edges. When this kind of edge accompanies a full corolla of widely imbricated petals that are also frilled at the edge, a very rich flower results; this sometimes occurs in the pale tints, in either a pale lemon or in a white with a lemon eye, and we have a garden flower of great beauty and refinement that is in absolute opposition to the standard of the show.

These are important matters for the observation of the most intelligent gardeners and amateurs, who cannot fail to perceive that though in most cases the plants brought to shows are brought there in the service of the garden, yet in some cases the show flowers are show flowers with hardly any reference to the garden.

Jewels of beauty such as the show Auriculas, so lovely and enjoyable in the hand and on the

greenhouse bench, would be lost in the flower bed or border. They have their own use in giving delight in the enjoyment of the highly refined types of a beautiful flower, brought to a state of wonderful perfection by long care and loving labour. But they have their own place in gardening, and the laws that are laid down for the admission to the show table would rule out many of their fellows that would make a handsome, perhaps a handsomer, bank of garden flowers than could be made of their more highly refined companions.

PLANTS FOR GARDEN VASES.

THE question as to the best plants for this use is one that often arises. In one way it is very easily answered, for there can be no doubt that there are no summer plants that so exactly suit the purpose as Geraniums. The habit and appearance of the plant is exactly of the right character—rather solid and important, while its stiff half woody stems enable it to withstand a good deal of wind. Moreover, it comes to its best in the late summer and early autumn, when the gardens where the important stone vases usually find a home are wanted to be at their best. They are also plants that gardeners are so well accustomed to growing that they can depend on attaining the result required. The choice of kinds is now so large that there is plenty of alternative, but there can be little doubt that for general good effect those of the softer scarlet colourings and those inclining to a salmon tint are the best. Nothing can well beat the salmon-coloured double King of Denmark. The colour is delightfully satisfying to the eye both of the critical and of the untaught; the doubling is just double enough, it gives the flower an expansive richness without crowding of petals.

We want our double Geraniums, like all other double flowers, to be improved by a reasonable increase of petals, not to be debased by their being crowded into a tight, formless mass, as is the case in many double flowers, of which, among others, many Geraniums, Begonias, Hollyhocks, and Fuchsias may be quoted. This good King of Denmark has also the merit of a handsome and well-marked leaf; in short, it is a type of beauty for a vase as for any other use of these indispensable summer flowers. Geraniums are rather better in vases than in beds because the vase becomes warmed, and with daily watering the conditions it offers are exactly what the plants like best, sun-warmth to root and top and free air all round.

So, to recapitulate the main part of the answer to the question as to the best plants for vases, it is: Geraniums far and away the best. Nothing is so well dressed or so exactly suited to this use. Whether or not to add some Ivy-leaved kinds to hang over the edge

is a matter that must be determined by the form and place of the pot, but they are generally more suitable to a thing of larger design. The choice of the pot plants must depend also on the degree of shelter of the place where the pots or vases stand. In a very sheltered place the best of the Petunias are good pot plants. The best means the good whites, whether single or double, the purples being nearly all infected with an unpleasant rankness of colouring that makes them unbearable to the critical colour eye. They have the advantage of remaining long in beauty, for it must be remembered that the pot plant must be long enduring; it is no use to have a thing that is in beauty for a month—it must be in beauty for three months. A vase in a sheltered place, 2 feet high and as much broad, reckoned independently of any plinth or pier on which it may stand, might be beautifully dressed with a standard Heliotrope in the middle about 2 feet 9 inches high, with a base planting of white Petunia, or the standard of such a height as would show just a little of the stem free above the Petunia. A very well grown Fuchsia of the Mme. Cornellison type or any red and white double that is not too double would also be a good centre plant. Here the pendent habit of the plant would seem to encourage the use of a red or white Ivy Geranium to carry on the same idea throughout.

Where the vases can be carried for the winter into the shelter of some frost-proof place, Hydrangeas, that can remain in them from year to year, are delightful vase plants. For the same use, whether the vase itself is carried into shelter or the plant dropped into it in a large pot, Sweet Verbena, Myrtle, Pomegranate, Oleander, Musa, and the harder Palms can be used. But to do these things rightly there must be a knowledge, not only of the plant and its needs, but of proportion and right use of form and colour. It is therefore most important in large places, or places of whatever size that are carefully designed, to have a regular system established, on the advice if possible of a competent garden artist, and to keep to the same year after year, for it is a matter that calls for the most highly trained ability.

If during the summer any of our readers will send us a note of their experience with various plants in vases we may be able to work out a set of schemes that may be of use to them and others, although we incline to the opinion that the few best vase plants are already well known, among them being the Paris Daisy (*Chrysanthemum frutescens*), and that it is better to put these to their best use as to proportion and environment than to search about for a larger number of plants that may possibly be used in vases. One has also to remember that in the best practise of formal gardening, where these vases are most in place, they are used as the culminating feature of some important point, generally repeated with the same architectural form throughout the design, and that it destroys the intended harmony if they are filled with a number of different plants of various form and colour. As an instance of the restrained and rather severe treatment such vases formerly received may be mentioned the American Aloe, with its rigid, almost symmetrical form, that was so often and so rightly used.

EDITORS' TABLE.

At this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty

and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flowers so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they may be addressed either to Miss Jekyll, Munstead Wood, Godalming, or to Mr. E. T. Cook, 20, Tavistock Street, Covent Garden, London.

FLOWERS FOR ILLUSTRATION.—We shall be pleased if readers will send any rare or good garden flowers worthy of illustration to Mr. H. G. Moon, Herbert Lodge, St. Albans. This will assist us greatly in maintaining an interesting series of flower sketches.

BUNCH PRIMROSES IN DEVONSHIRE.

We receive from Mrs. Bayldon, near Dawlish, some grand trusses of bunch Primroses grown in wooded ground. Some of crimson colouring have the individual blooms nearly 2 inches in diameter.

IRIS SUSIANA AND I. IBERICA.

Messrs. T. Ware, Limited, send from their Hale Farm Nurseries, Feltham, Middlesex, flowers of these beautiful *Oncocyclis* Irises. *I. susiana* (the Mourning Iris) is one of the most interesting of its race, and well known to all good garden lovers. The flower of *I. iberica* is singularly handsome. Its large flowers have white standards, spotted and pencilled with faint purple, while the deep coloured falls have a dark velvety central blotch.

FLOWERS FROM A SURREY GARDEN.

A valued correspondent sends "from a Surrey garden, about half an hour from Waterloo, dry sandy district," some splendid *Camellia* blooms, "from an alcove of *Rhododendrons*, looking due north." The plants are old and too worn out for a house, but have been fifteen years in their present place, protected behind. They improved in health and strength out of doors, although not protected in any way (except imperfectly behind and above) in the winter, not even in part of 1892. Also comes the curious *Asarum caudatum* and *A. europaeum*. "Both have been in shade in rather damp place for twelve or thirteen years."

From Mr. F. Perceval, florist, of Latchford, Warrington, comes a richly varied gathering of

DOUBLE AND HOSE-IN-HOSE PRIMROSES AND AURICULAS.

The double Primroses are pale and deep yellow, crimson, lilac, a fine new rose, the good old purple Croussei, and a fine large red purple with flowers over 1½ inches across. There is a good example of the slate-blue *Polyanthus* and a double yellow Auricula of fine colour, also some effective red hose-in-hose Primroses. Also some neat pink double Daisies with quilled florets. An interesting feature of this comprehensive picking is a graduated series of several blooms, apparently from a common Primrose, in which the corolla, while retaining its normal form, changes its usual character and colour to that of a true leaf; it is interesting to note that while those blooms that are nearest to the normal character have the fertile thrum eye, showing the bunch of stamens, the more leafy blooms have the protruding pistil only.

FLOWERING SHRUBS FROM ELSTREE.

Mr. Edwin Beckett, Aldenham House Gardens, Elstree, sends specimens of a few of our finest spring-flowering trees. *Amygdalus persica* magnifica is conspicuous for the brilliant pink colouring of the large flowers, *Pyrus Malus atrosanguinea* has intensely dark crimson flowers, *Phillyrea vilmariniana* is sweetly fragrant, and another good thing sent is *Spiraea arguta*, one of the best of all shrubs flowering at this season. Mr. Beckett writes:

"Many of the flowering shrubs are very fine this year. I am sending a few pieces which I thought you would like for the Editors' table; they are very conspicuous in the garden just now. The *Amygdalus*, which received a first-class certificate a few years since, is a grand addition to our early-flowering trees."

NOTES OF THE WEEK.

Tradescantia virginica under glass.—One rarely sees any note about this, useful as it is. Perhaps it is because it requires no care or attention and seems so utterly indifferent about soil or position. Nevertheless, it seems to me that with a little attention it could be made even more useful than it is. This spring, for instance, I potted up a few strong crowns of the dark purple variety, and brought them into a warm conservatory. There they came on rapidly, and are now (the first week of May) in flower, while those out of doors are but 2 inches or 3 inches through the ground. If allowed to grow and flower and ripen seed I find self-sown seedlings come up in quantity. They vary greatly in colour, ranging from white through light blue to deep purple and from pale pink to rich magenta. Of the whites there are three forms: one with purple anthers, one with yellow anthers, and, best of all, one with white anthers. This last is very pure. To do them all full justice they should be dug up every two or three years and a few strong crowns replanted. These give better-sized flowers than old and crowded clumps.—T. J. W., *Woodside Park*.

Rose Marie Louise Poiret (H. T.).—As was to be expected from a cross between Caroline Testout and Marquise Litta, a very charming result has been obtained in the above-named Rose. It has inherited the excellent free-flowering characteristic of both parents, and also their typical truss of bloom, some five or more on a stalk. As the flowers develop almost simultaneously, this variety is most decorative. The fragrance is powerful and delightful, fitting to be classed with *La France* in this respect, and the colour is of a fresh tender rose tint, deeper in tone than Caroline Testout, perhaps nearer to the fine Hybrid Perpetual, Lady Sheffield. Judging from the appearance of Marie Louise Poiret under glass, I should say it will prove to be a useful variety for bedding, and will make an excellent pot Rose.—P.

Scilla italica alba.—This very beautiful little bulb has before been mentioned in THE GARDEN, but its beauty entitles it to at least a brief remark or two once more. A little group in full flower on one of my rockeries has been very pleasing for two or three weeks, and several people who have seen it have asked its name. It is one of these little bulbous plants which deserve to be made better known, although it is yet far from plentiful and difficult to obtain in trade circles, though it is now in the hands of two or three dealers who make a speciality of such things. Its little conical heads of white flowers make a charming contrast either with the paler blue flowers of the typical *S. italica* or the deeper blue of other spring Squills. I can never understand why the blue *S. italica* is so little seen, and why it appears so seldom in catalogues, although now more frequently met with than a few years ago. Perhaps its blooming rather later than several other Squills may have caused it to be overlooked among the greater variety to be had when it flowers, but it is so pleasing and so free growing that it might well be grown in some quantity.—S. ARNOTT, *Carselthorne, by Dumfries, N.B.*

Berberis congestiflora hakeoides.—Judging by remarks overheard at the Drill Hall on April 23, when this *Berberis* received an award of merit, it appears to be little known, though it is by no means a novelty. It is one of the ever-green species natives of South America, but in general appearance it differs widely from *B. Darwini*, *B. dulcis*, and *B. empetrifolia*, all of which occur in the same region. The *Berberis* in question forms a sturdy growing bush, which,

though reaching a height of several feet, will flower freely while quite small. The leaves, which are from 1 inch to 2 inches in length, are roundish, the upper surface being bright green, while the lower side is glaucous. A distinct feature is furnished by the stout coriaceous leaves and the large conspicuous spines upon their margins. The flowers, which are borne in dense axillary clusters, are, like those of most of their class, of a golden yellow colour, and borne in dense axillary clusters. Owing to the leaves being densely set on the shoot the flowers are so numerous as to be almost like a large spike. This Barberry is one of the many valuable hardy shrubs that we owe to Messrs. Veitch, by whom it was introduced in 1861.—T.

Gunnera manicata is always admired by visitors to Oakwood Garden; its grand leaves have quite a tropical effect, and it increases in size every year. We find it best to cover it up in winter, and in spring to have some cut Heather near it so as to give a light covering when a frost is threatened; without this the first leaves are apt to be injured.—GEORGE F. WILSON, *Heatherbank, Weybridge Heath.*

Tufted Pansy Endymion.—The tufted Pansies have suffered considerably during the last few years, the excessively hot weather of last summer weakening the growth of many standard sorts. The difficulty in the late summer and early autumn was to obtain healthy stock. When looking through the propagating beds recently I was struck with the vigour of the plants of the variety under notice. They were the strongest plants in the beds. As may be inferred by these remarks the plant is of vigorous growth, developing a profuse display of

large showy pale yellow blossoms, which are faintly pencilled. It is one of the seedlings raised by Mr. A. J. Rowberry a few years ago.—D. B. C.

Sweet Peas in flower in pots.—Plants grown singly in pots from seeds sown in the autumn are now in flower. It is surprising what may be done with these favourite flowers in pots. I think they might be had in bloom much earlier than this (April 25) in a more favoured neighbourhood, for in the smoky atmosphere of London we have had very little sun until quite recently. The seed may be sown in September and the seedlings potted singly, stopping them from time to time as they require it; they will make bushy plants. They require a light, open position and sufficient warmth to keep out frost, and to be potted in good loamy soil with good drainage. The single plants may be grown on large enough for 8-inch pots. The varieties I should recommend for the purpose are Sadie Burpee, white; Gorgeous, orange-scarlet; Stanley, purple; Mars, bright red; Blanche Ferry, pink and white; and Lady G. Hamilton, mauve. These I have found among the very best for pots. I may add that they should not be treated too liberally until they begin to flower, when manure may be given freely, and will ensure a continuation of bloom.—A. HEMSLEY.

Medal of honour presentations.

At the ordinary general meeting of the Fellows of the Royal Horticultural Society, held in the Drill Hall on Tuesday last, the president, Sir Trevor Lawrence, V.M.H., presented several medals of honour. First came that well-known, indeed, famous lady, Miss Eleanor Ormerod, the distin-

guished entomologist, to whom in her regrettable absence Sir Trevor paid high compliments for the great service she had rendered to horticulture in connection with insect pests and their destruction. Next in order, though also absent, was that distinguished Indian botanist, Sir George King, of whom it was said that he had done so much to promote the cultivation of Cinchona in India. Prior to this gentleman's appointment the Calcutta Botanic Garden was in a sad condition, but since that event it had become a very fine garden indeed. Then followed the veteran market grower, Mr. James Sweet, of Finchley, who was characterised as almost the father of market fruit culture under glass, and as being the first to erect glass houses of the style now so common in market establishments all over the kingdom. Lastly came Mr. George Norman, the well-known gardener to the Marquis of Salisbury, at Hatfield, who was eulogised for his high ability as a general gardener, and especially for the production of fruit and vegetables. To all these were given the society's Victorian Medal of Honour, the council having recently extended the number of recipients to sixty-three, in agreement with the number of years of the late Queen's reign. Both these recipients were warmly applauded. Finally, there were presented three Veitch memorial medals, one to Mr. Irwin R. Lynch, curator of the Cambridge Botanic Gardens, one to Mr. W. B. Latham, of the Birmingham Botanic Garden, and a third to Mr. James Meehan, of Philadelphia.

Sale of dwarf Japanese trees.

At the sale of Japanese dwarf trees—sweet-scented and blossoming trees—at Willis's Rooms the cata-



GUNNERA MANICATA.

logue itself was an interesting work of art. It had illustrations by the Japanese artists Hokusai, Sukunobu, and Bairie. The trees sold included Thorns, Plum, Cherry, Cinnamon, Camphor, Elm, Witch Hazel, Beech, Maple, Apple, and Jasmine. The 138 lots realised £280.

A beautiful way of using the white Arabis.—I have recently rambled through several cemeteries, both urban and suburban, and of all the efforts made to suitably adorn the sacred mounds raised therein none were crowned with such conspicuous success as two which for embellishment depended solely upon the pure white blossoms of *Arabis alba*—the Snowy Milkmaids as the flowers are called in rural Berkshire. One grave was simply a solid sheet of pure white honeyed blossom, and produced a really beautiful effect, the patch measuring 9 feet by 8 feet. The other, which was a double grave, had been turfed over, and in the central portion plants of the *Arabis* were inserted closely together, and formed the loveliest white cross I have ever seen on any grave, a cross, too, as natural as it was lovely, and whose lasting properties were probably more important even than its other qualities. How simple, too, is the culture necessary to ensure this beautiful display. The plants when flowering is finished are simply divided and planted some 6 inches apart in any moderately good soil in any aspect, save, perhaps, a northern or wet one, until the autumn frosts shall have killed off the brilliant summer blossoms, when they are planted in the place where they are to yield their wealth of blooms, which place the green rosettes of leaves will charmingly adorn until eclipsed by the advent of the myriad snowy flowers which March and April bring.—E. J. CASTLE, *Wantage, Berks.*

Tulips in Park Lane, Hyde Park.—In continuation of notes in last issue, there are now some very good beds of Tulips—not in condition then—of the popular Tournesol red, with very bright yellow margin, and Joost Van Vondel, a very effective bright rosy crimson flower. A mixed bed of Tulips near Grosvenor Gate, and having a carpet of *Primula cortusoides* looks very showy; indeed, presents a pleasing and effective combination. Near at hand mixed Tulips carpeted by brightly-flowered *Auriculas* have quite a bright aspect. In a few days a bed of mixed Tulips having a carpet of *Primula Sieboldi* will look very pleasing. Very fine is a mixture of Tulips and *Doronicum excelsum*. Mixed Pansies with Solomon's Seal interspersed amongst them look very gay, whilst mixed Pansies and *Doronicum excelsum* make an effective display. Two beds planted with the well-known Pansy named Beaconsfield—mauve and white—with *Genista præcox* tastefully introduced amongst them, make a very telling feature.—Quo.

Proposed memorial to Huxley.—The erection of a memorial to the late Professor Huxley, in Ealing, where he was born and received his early education, is contemplated. On the initiative of the council of the Ealing Natural Science Society, a committee of those persons connected with the district who are interested in the project has been formed. The first meeting of this committee was held on March 29, when an executive committee was appointed with the Rev. Professor G. Henslow as chairman. A bronze medallion portrait has been advocated for the central feature of the design, which may take the form of a simple mural tablet or of a more worthy monument, as funds are obtainable, while should that support be forthcoming for which its projectors hope, an annual grant or medal might also be founded. Subscription to the fund is not confined to residents in Ealing, and persons who may be desirous of assisting in the endeavour to show honour to the memory of Huxley in the place of his birth should communicate with the treasurer of the fund (Mr. T. Simpson, Fennymere, Castle Bar, Ealing), or with the secretary (Mr. B. B. Woodward, 120, The Grove, Ealing).—*Nature.*

Fruit culture in Ceylon.—The people of the enterprising island colony are determined to push forward the scheme for fruit culture, and export, as will be seen from an extract which we

publish in another column. Here again the islanders will forestall us, unless some of our enterprising capitalists look sharp. We should not be surprised to learn that Government help was asked for in this matter.—*Indian Gardening.*

Poet's Narcissus in Devon.—We have a drift of Poet's *Narcissus*, some 12,000 of them, under the budding trees on a gentle slope. It is a lovely sight.—A. B., *Dawlish, Devon.*

Importance of horticultural societies.—Speaking before the members of the Rhode Island (America) Horticultural Society, President Farnum said that horticultural societies are too slightly appreciated. They should be at once recognised as agencies for the welfare of all the people, and ought to be richly endowed. He would like to have horticultural societies in every county of Rhode Island, with buildings of their own, and holding large exhibitions at suitable seasons. The result would be to greatly stimulate a love for horticulture, and promote the culture of health and pleasure-giving fruits and flowers.

Fritillaria tristis.—Mrs. Mayers writes from North Lancashire:—"I send you a bit of *Fritillaria tristis*—rather a rare plant, I fancy, and one which grows well with me in our rather poor peaty soil, mixed with sand and plenty of leaf-mould. It flourishes in several different aspects of the garden, shady and sunny alike."—[*F. tristis*, though an interesting and well-known plant, is not commonly seen in gardens.—Eps.]

The late Mr. D. T. Fish.—As an old acquaintance of the late Mr. Fish, I would thank you for your capital portrait of him, and also for the interesting notes concerning his horticultural life. That he rendered immense service to horticulture there can be no doubt.—A. D.

Protecting Asparagus growths.—There is a great gain in covering some of the best beds with long litter in such seasons as we have just passed through. Early in April the growths were just pushing through the soil, and in this part of the country—West Middlesex—we had from 10° to 15° of frost on several occasions. This injured the new growths just as they were starting freely, and, as the Asparagus season is greatly shortened by these late frosts, timely protection in the shape of long litter, or, what is equally good, dry Fern or Bracken is beneficial. I am aware that covering has a tendency to blanch the heads, and this by some is objected to, but if the litter is removed to the sides of the beds during bright sunshine the growths assume their natural colour. It is easy to replace the covering at night, or even earlier should cold east winds prevail. I have frequently seen young growths suffer from other causes, a common one being want of soil on the surface of the beds. The old roots have a tendency to lift themselves upwards, and by liberal top-dressings this feeds and gives the roots more protection.—G. W. S.

Improvements in Edinburgh parks and gardens.—Mr. MacHattie the other day had the pleasure of seeing his first report, with its suggested improvements, received by the Edinburgh Town Council with approval. Among the schemes to be undertaken is a nursery in the new Inverleith Park, for the production of trees and shrubs; alterations in West Princes Street Gardens, which are to be spread over a period of six years; and the flower border near the Scott Monument, in Princes Street, is at once to be put into a form more in keeping with modern ideas than hitherto. At the present time the view down the Water of Leith, looking from the Dean Bridge, is a dream of beauty, and perhaps nowhere else than in Edinburgh is it possible to find anything to compare with the effect of the trees with their expanding leafage.

A hall for horticulture.—Your enthusiastic correspondent Mr. H. Cannell, sen., seems to think that, were a Royal Horticultural Society hall erected in London, it would afford a suitable exhibition place for the shows of the National Rose and Chrysanthemum societies. A few facts may soon dispose of such suggestions, and those facts could no doubt be easily furnished in the one case by the well-known Rev. H. H. D'ombain, and the other by Mr. R. Dean, the secretaries of these

respective societies. If each one would give the actual area required for exhibits at each of their shows—July and November—and would add in each case double the space thus required for visitors' locomotion, some common-sense knowledge would be obtained as to the actual area of any hall of horticulture to accommodate such societies. On that head there seems to be much ignorance.—F.R.H.S.

The Dean of Rochester.—We are very pleased to know that the Dean of Rochester will be present at the forthcoming anniversary of the Gardeners' Royal Benevolent Institution. Those present at last year's festival will remember his excellent speech as one of the most pleasant reminiscences of the evening.

Frederic Burvenich.—The *Bulletin d'Arboriculture* contains an interesting article by Em. Rodigas on the life of Frédéric Burvenich, honorary professor of the State School of Horticulture at Ghent. M. Burvenich has been in charge since 1858 of the courses of instruction on fruit and vegetable cultivation, and has contributed largely to the reputation of the school. He was a constant contributor to the pages of the *Bulletin d'Arboriculture*. Although M. Burvenich is now seeking a well-earned repose, he will still continue his public lectures. In 1883 the Ghent School of Horticulture celebrated the twenty-fifth anniversary of the professorship of M. Burvenich, and on this occasion the King of the Belgians conferred upon him the insignia of Chevalier de l'Ordre de Léopold. Shortly after he received the Décoration Agricole of the first-class, and the Civique Médaille of the first-class, as well as the insignia of Chevalier du Mérite Agricole of France. He afterwards received the civic cross as a reward for more than thirty-five years loyal services. M. Burvenich has received many other reminders of the regard in which he is held.

A good early Pea (Sutton's Bountiful).—There are many complaints this season about the weak growth and loss of seed among the early Peas. The weather in a great measure is answerable, as the soil was so cold and saturated that severe losses resulted in the seed bed. Most of the losses occur in the marrow type, and though much has been done of late years to raise hardier stock, the weather we have experienced was so bad that it told on the seed, no matter how hardy. I notice one variety which appears to go ahead in spite of adverses. This is Sutton's Bountiful, a blue seeded variety, a green Pea of great excellence, and, though a round seeded kind, it differs from that type, as the pods are longer and the quality superior to the old white round kinds. As regards cropping, I have not seen its equal; it is enormous, and being only 3 feet high it may be grown in small gardens, and sown for first crop. Owing to its size and productiveness, it is a most valuable early variety. Those who sow in the autumn will find this one of the most trustworthy kinds, as though I am not fond of sowing in the open at that season given frame culture at the start and planted out it is most useful.—G. WYTHES.

Spinach forced (the Carter).—This variety forces so readily that in the spring season a deficiency can soon be remedied if seeds are sown in heat, either in pots or in a frame. Of course, heat is not really necessary if glass protection can be given, but grown thus the plant is longer turning in, and if time is important or a crop needed at any special season, I would advise sowing in pots in a warm frame; grown thus a supply may be obtained in a few weeks. In our own case in a wet winter our Spinach winters badly, and our first spring crop is always secured from pot plants. Seed sown in 5-inch or 6-inch pots, and the plants thinned to say three or four, grown in a warm frame at the start, and afterwards as near the glass as possible, may be had fit for table in a few weeks. Grown under glass the plants delight in a rich soil, and if a portion of a frame can be sown broadcast early in February for spring cutting it makes a valuable addition to the spring supply of vegetables. I prefer the large leaved variety. The Carter Spinach is a very fine type, and forces well, being of remarkably quick growth and splendid quality.—A NEW READER.

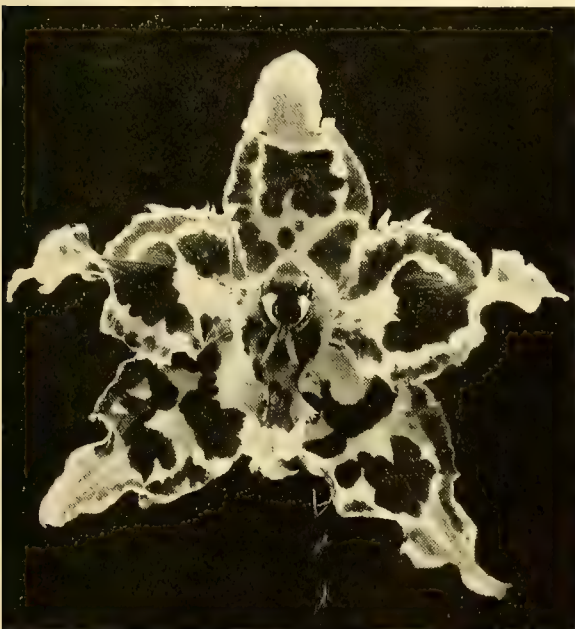
Bridal Wreath (*Francoa ramosa*) and *F. appendiculata*.—The former is much appreciated in the autumn. The long, slender spikes of pure white flowers are very pretty, and it is particularly adapted for groups arranged for effect. The tall spikes of bloom standing up above other subjects give a light appearance either to an exhibition group, the conservatory, or other floral arrangements; it is invaluable. It may be increased by dividing old plants or from seed. It is now a little late for seedlings to flower well this season, but old plants may be divided and potted in good rich loamy soil, grown in a cold pit or out of doors in a sheltered position, and taken under glass when the flower-spikes begin to throw up. The flowers come whiter and better in the shade. *Francoa appendiculata* is a taller-growing species, with a branching spike, but the flowers are not pure white when the plant is exposed to the sun; they have a pink or almost purple-pink shade. If grown under glass and well shaded when the flowers begin to open, they will come almost pure white, and in the background of a group they are very effective. This species has large leaves, and requires to be grown in 7-inch or 8-inch pots, but *F. ramosa* will flower well in 5-inch pots. If taken in hand now and

when large enough seedlings may be transplanted forthwith into their flowering quarters. It also makes a very pretty pot plant, and for this purpose seed should be sown in $4\frac{1}{2}$ -inch pots, and placed in cold frames, where they can remain all the winter. The seedlings should be thinned to three or four plants in a pot. Early in the year they should be brought into a cool house near the glass, and they will then require the support of neat stakes. They make a very pleasing display during March and April.—E. HARRISS.

Pentstemons.—The Pentstemons rank among the most beautiful of hardy plants for the mixed border or for grouping in beds and borders by themselves. To enjoy this beauty to the full I favour the system of massing them in beds, and as vast improvements have been made in size of flowers and diversity of colours, combined with robustness in growth, some extremely beautiful pictures may be made about the garden by judiciously planting several beds of them. Here, in the Midlands, we lose the old plants every year if left in the open, and the method I now adopt is to strike the required number of strong cuttings, taken from the best varieties in September. They are dibbled into sandy soil in a cold frame, and there they remain until the middle part of the month of April, when they are planted out in prepared stations and allowed to grow away at will. As growth becomes rapid a few pieces of Hazel-brush are inserted among them, and this supports the plants as they become laden with heavy foliage and a profusion of blossoms. Some such mode of procedure is necessary, otherwise heavy showers will break them down.—H. T. MARTIN.

Odontoglossum crispum

Franz Masereel.—This charming *Odontoglossum* has acquired a world-wide reputation. It was first exhibited at the Royal Horticultural Society's meeting on November 13, 1894, by M. Vervet, and was awarded a first-class certificate by the Orchid committee. It was then a very small plant. Since that time it has been exhibited on two occasions from the collection of M. Jules Hye-Lysen of Ghent, the last occasion it was exhibited being March 26 last. The Orchid committee most deservedly awarded the plant a silver-gilt Flora medal. The plant carried a raceme of thirteen flowers, from one of which the photograph reproduced in the accompanying illustration was taken. The exterior of the sepals and petals is densely suffused with rich purple, the light reflecting through this causes the white on the front surface to have quite a rosy lilac appearance. As seen in this illustration, the greater part of the segments is blotched and spotted with rich crimson-purple. The lip is white, with a large blotch of purple in the centre, deep yellow on the crest. It is one of the most attractive and beautiful *Odontoglossums* in cultivation. H. J. CHAPMAN.



ODONTOGLOSSUM CRISPUM FRANZ MASEREEL.

potted in suitable compost they give little trouble during the summer, and will be found very useful in August and September.—A. HEMSLEY.

***Dielytra spectabilis* (Bleeding Heart) in pots.**—This is now flowering in the cool greenhouse, and is very effective. The plants were potted late in the autumn, and were kept in a cold pit until they began to start into growth, when they were removed to the house. A sunny position and protection from frost is all that is required to have it in flower some weeks before the natural flowering season. A late frost will often be destructive when grown out of doors, though in a sheltered position it is one of the most beautiful hardy plants we have for the early spring.—H.

***Collinsia verna*.**—This charming little hardy annual is now coming into bloom and will soon be a mass of pretty blue and white flowers. It is not often met with, but I think if it was better known it would become popular for spring beds, as it is quite distinct and easily grown. By sowing seed now it may be had in flower during the summer months, but I think it is more appreciated in the spring when flowers of this type are not so plentiful. For spring flowering seed should be sown in September in the open, and

in a clearly convincing manner, the hardy fruit being provided for the dead period of the year. Now here arises the all-important question as to how we are to have Apples in a thoroughly sound, fresh state for cooking and dessert at the times mentioned above, so that every possible means should be adopted to attain the best and highest methods of cultivation.

In the early autumn and on to Christmas there is in most cases plenty of sound fruit; indeed, I might safely say too much, and I am not sure if our autumn shows have not something to answer for in this respect. The Apples we see exhibited being beautiful specimens lead us to get many of them, so that when fruiting time comes we have more of one class than is really necessary, and before these soft autumn Apples are used there is as often as not some loss. It is no unusual thing for the supply to become short later on in consequence, so that the

AIM AND OBJECT IN APPLE CULTURE

should all point towards having a supply of sound fruit at a time home-grown fruit is likely to be scarce, and when foreign supplies take the place of the deficiency, which is much to be regretted, as in this country there is neither want of climate, suitable soil, nor knowledge, observation, and skill to do the practical part of the operations, that lead to success. The only explanation I can arrive at is the want of courage to venture on what seems to many a doubtful step, simply because there is no certainty as to every year's crop being a paying one. Still the effort should be made, and it should be borne in mind that were the immense sums of money that are annually spent on foreign Apples spent on cultivating the waste land of England thoroughly for Apple trees, there would be an industry inaugurated that would employ labour to a large extent, and act, directly and indirectly, to the advantage of the common wealth, so that there need be no fear of a full return in good time for the original outlay. Now the next important point in Apple culture is a

PROPERLY CONSTRUCTED HOUSE TO STORE

the fruit in, for it is all to little purpose to take the initial step towards having fine fruit, and storing it in an unsuitable place, where after a time the fruit begins gradually to get soft and contracted, in other words, shrivelled. All such fruit is of little value, either for cooking or for dessert, as when the juice is gone (which is the essence) the fruit is neither palatable nor wholesome, and this deterioration takes place from the fruit being stored in too dry a temperature. The usual fruit room that has been in vogue for many years, fitted up with all the best possible appliances as to heating and airing, the best pine wood drawers and racks, was the very thing that robbed the fruit of its essence. The laws of scientific chemistry clearly prove beyond all question of doubt that the atmosphere of a room containing dry and soft articles together will in time equalise itself, by the dryer absorbing the moisture of the softer, so that in the case of Apples being in such dry surroundings they lose in plumpness, even by midwinter, not to speak of onwards till the end of May, when it is quite possible to have Wellington, Lane's Prince Albert, New Northern Greening, Norfolk Beaufin, Newton Wonder, and others equally good in the cooking class. Dessert varieties, too, are to be had then in good condition. My objection to the fruit room just described is that its position in the establishment is generally surrounded and connected with other buildings; its atmosphere is constantly dry, and the currents of dry air through the racks and drawers are harmful. Apples will not keep sound in such places; they will shrivel in the face of all efforts made to preserve them, so that some other structure, containing an atmosphere suitable to their requirements, must be found if we are to expect and have good Apples late in the spring. There cannot be a shadow of doubt about the correctness of this statement, for the dried up, shrivelled state of the Apple late in the season in these fruit rooms must be evidence enough to demonstrate clearly to all that there is "something wrong." I, for one, have

COLD OR COOL STORAGE OF FRUIT.

WE have received from Mr. Kemp (gardener to C. S. Scrase-Dickins, Esq., of Coolhurst, Horsham,) a paper of much practical importance about the subject of cool storage of fruit, which is creating so much interest among our readers. This paper was read before the Brighton and Sussex Horticultural Association, and we give the following extracts:—

The Apple as an article of food, cooked in any form, is a most wholesome and desirable dish, and what adds so much to its value in this respect is that it is generally to be had through the winter and the spring months, when other cooking fruits are scarce, filling up the gap between summer past and summer coming. So in this provision of nature we see the order of things for our advantage

STEPPED OUT OF THE STEREOTYPED METHOD, and although I was characterised as being very foolish and audacious in presuming to leave the beaten track, which I did about ten years ago, I can nevertheless look back over that period with the greatest pleasure, seeing and experiencing in no small degree that my departure was a step in the right direction, and therefore can recommend the system adopted with every confidence as one that will meet the case presently under review. I abandoned the rack and drawer fruit room for Apples at Coolhurst, and took to an old summer house in a damp, low, shady part of the grounds, with brick walls and cement face outside. The walling and ceiling were plastered inside, with lath only on the ceiling, the floor of cement resting on the clay, and, consequently, always damp and cool; and what makes it more so is that there were no spouts round the eaves of the roof, which project considerably over the walls, so that all the rain water from the roof falls round the base of the house and percolates underneath it. The door faces south-west, and just opposite is a large window opening in two halves on hinges, so that this window is never shut, unless in times of severe frost, there being a close, stout wire netting fixed inside over the window frame to prevent birds or other creatures pecking at the Apples. The other windows are hung with heavy dark blinds to prevent much light falling upon the fruit, for this is not necessary, as it leads to a dry atmosphere and raises the temperature too high. It should never exceed 40° in frosty weather if possible; but as spring advances there is no chance of it being kept so low.

NO ARTIFICIAL HEAT OF ANY KIND

is used until the temperature falls close on freezing point. In such a house as I have just described you can easily understand that there is at all times a soft moist atmosphere. If the Apples feel damp and moist to the touch, which they are sure to do under such atmospheric conditions, there being no current of air to carry the moisture off, they will long keep fresh, sound, and plump. As the Apples are gathered off the trees every care is taken not to bruise them. All the small and deformed ones are picked out and laid aside for cider purposes, so that nothing but the best are stored. Each variety is put by itself in a lump from 1 foot to 2 feet deep on the damp floor, according to the quantity there may be in each, right and left, separated from each other by slates, or anything else of a non-moisture absorbing kind; thin damp Oak boards do very well, for if these are damp before being laid on the floor they will remain so. Here the Apples lie undisturbed, and are used as required, each in its season; there being a narrow passage in the centre of the house they are easily got at. No straw nor litter of any kind is used to cover the Apples, which is not an uncommon thing to be met with in use; these strawy materials do a deal of harm to the Apples, apart from absorbing the moisture at first from them, which is sure to happen from these materials being drier in substance than the

Apples are, and will remain so until both are equalised in moisture. Then these soon get damp and musty, and the Apples get musty-flavoured, which makes them unpleasant either for cooking or for dessert. Our Apples all remain uncovered from the time they are put in store till they are all used, and it not infrequently happens that they last in use till the end of May and well into June. We have had Wellington and Lane's Prince Albert perfectly sound and plump for cooking; and for dessert, Court Pendu Plat, Duke of Devonshire, and Sturmer Pippin in the same condition at the latter time, so much so that visitors could hardly credit they were home-grown fruit. You must here observe that there is a deal of faith put into the atmospheric surroundings the Apples are under, so as to bring the one thing needful towards preserving their keeping properties, and since it is only in such a house as I have here spoken of that these fruit-preserving surroundings can be got, then it behoves every one who has Apples to store for a long supply to see to the atmospheric conditions of the store room being suitable. What first convinced me thoroughly of the fact that a

COOL MOIST ATMOSPHERE

was the best to store Apples in to get them to keep for a lengthened period was this: While working among the trees in the orchard in the spring, I found Apples perfectly fresh and sound lying amongst the dead leaves and the long grass, where they had lain from the time they had dropped from the trees in the autumn: and this instance made clear to me that my views of the dry Apple store being unsuitable to keep Apples in a good plump state was correct, and moreover it must be clear that these Apples would be some time or other through the winter to some extent frozen, for there is no winter, however mild, generally speaking, but has some frost in it. Eight years past in the latter end of October we had 16° of frost, and when that occurred we had a tree of Court Pendu Plat unpicked, it being a late variety, and had to be left till the last to get the fruit to part freely from the tree, so after that frost we thought there was no use troubling more about picking the Apples, as they would be wasted. However, some days afterwards the Apples were examined, and much to our surprise were to all appearance quite unhurt. So they were picked and stored beside the others, and remained sound till the following May, when they were used. To me that was another convincing proof of Apples being able to put up with very cool storage, although it must be distinctly understood that I would never allow the store room to fall below freezing point, as I believe in a steady temperature being the best to keep Apples in. Now, all that I have recorded here about the Apple has led me to think of how a real good Apple store should be made, and where its position should be, and since that is a matter of first importance it should have all due consideration towards the end in view.



LILIUM KELLOGGII.

(Natural size referred to in text.)

east and west, be from 8 feet to 10 feet wide inside, and double that in length, or even more, just according to the amount of fruit there might be the prospect of storing; its height in the centre of the roof need not be more than 8 feet, the two side walls, 4 feet high inside, would give a pitch to the roof of 4 feet. Heather or broom should be the material for covering, with a dash of clay in it to make it lie close; then I should by all means add a second roof, standing 2 feet above the actual one, and between the two there would be a stratum of air at all times, and in the case of severe frosts the current would lessen its hold on the roof proper. In the case of warm weather in the spring, the air current would ward it off and keep the house cooler inside, which would keep the temperature more even. The floor may be the natural clay if there is no chance of water getting inside in a time of wet weather, and if so the house itself would be better sunk 2 feet below the level of the surrounding ground outside. There should be two ventilators in the ridge of the roof proper to prevent the chance of sweating, but there will not be much risk of that if the window the house must have is kept open. The door in the west end and the window in the east, on hinges, should be kept open on all occasions, unless in frosty weather, with a stout, close wire netting fixed on the inside frame to prevent anything getting at the fruit. The one window will give plenty of light, and its position will prevent the chance of the sun getting in unless it be in the early mornings in the spring. Now, it may be said that all this labour about the erection of an Apple store is unnecessary; but I say it is absolutely the reverse, for if it is worth doing at all it is worth doing well, particularly if the keeping of the fruit is to depend on the state of the place it is stored in.

RESULTS OF COOL STORAGE.

From the results I have had arising out of cool storage I am thoroughly convinced of its effectiveness to prolong the season and the supply of good sound Apples. Therefore, I most unhesitatingly recommend the adoption of the course just detailed, and will say, that those who try the plan will in time have every reason to congratulate themselves on doing so. Now, by way of supporting in fact what I have recommended, I must tell you, at Coolhurst at the present time (November) we have 150 bushels of hand-picked Apples in cool storage, each variety by itself, and there they stay till all are used, which will bring us on to the end of May and possibly into June next year. I may go still further, and tell you we were offered by a good fruit dealer 5s. a bushel overhead for the lot. We have sold already over £5 worth. So add the 150 bushels at 5s. to the £5, and you will see what it comes to for the produce of an acre or thereabouts of a well-cultivated orchard. This I record in support of my contention that there is ample return to be got from converting the waste land of England into Apple orchards.

Those who grow Filberts must have some experience of the squirrel's liking for these, and in a very short time find they will do great damage if allowed to have their own way with them, not only by cutting them off the trees and dropping them, but by carrying them all over the place and hiding them among grass, leaves, soil, or anywhere else where they can get the nuts covered, for a supply of food for themselves through the winter. It does not happen that they pick them all up again, and in the course of work going on in the following spring it is no unusual thing to find these same squirrel-hidden nuts, and in the best state of preservation, too, being as fresh as when they were taken from the trees, clearly showing that they were stored under suitable conditions. These nuts compare very unfavourably with those kept in a dry fruit room or any similar structure through the winter. So that is another striking instance of one of the good effects of cool storage, and there is no better possible way of putting this assertion to the test than that of breaking the two nuts at the same time—the one from the dry place and the other from the wet—and eating them, to prove which is the sweeter, and I am positive the choice will fall on the

THE SITE

chosen should be a cool, shady one. The house should stand



BEGONIA GLOIRE DE SCEAUX IN AN IRISH GARDEN.

squirrel-hidden one. I have tried many ways of keeping Filberts fresh and sweet indoors, but as yet have not been successful in doing so. Even on the damp floor of the Apple store or in an ordinary dry fruit room they get musty, although they are frequently stirred about with the view of preventing that; so, to be successful with the keeping of these, I fear there is nothing for it but to fall back on the squirrel's method of storing and accept the lesson they have taught us as the one likely to meet the case.

LILIUM KELLOGGII.

(NEW SPECIES.)

MR. CARL PURDY, of California, kindly sends us a drawing and description of a Lily, which we think will much interest our readers, especially enthusiastic growers of the family.

Bulb like that of *L. columbianum*, small with narrow lanceolate closely adpressed scales. Stem slender 3 feet to 5 feet, one to eight flowered, smooth, terete, tinged purplish brown, racemose at top if many flowered, umbellate if few, several whorls in centre of stem containing six to many leaves each, leaves oblanceolate, acute, sessile, 2 inches to 3 inches long, 4-7 inch wide, petals oblanceolate, sessile, closely revolute from their base, pinkish purple finely dotted with maroon, $1\frac{1}{2}$ inches to 2 inches long, 5-7 inch broad. Stamens shorter than perianth, anthers brownish yellow 2-3 inch long, ovary 5-6 inch long, style a little longer. Ripe capsule oblong

cylindrical $1\frac{1}{2}$ inches to 2 inches long, and of almost even size throughout its entire length, Humboldt County, California, in redwood region. This pretty Lily is like *L. rubescens* in bulb, leaf, and general habit, the flowers are pinkish but unlike the shades in *L. rubescens*. It is very fragrant, with a fragrance entirely dissimilar from that of *L. rubescens* or *L. washingtonianum*. Its closely revolute segments, as closely recurved as in *L. pardalinum*, are very distinctive, and its capsule has a very decided character of its own.

Its real discoverer was H. N. Bolander, who many years ago sent it to Harvard Herbarium. A few years later Mr. Thomas Howell sent fine specimens of another Lily from the line of California and Oregon to Harvard Herbarium, and Dr. Watson from this full material described *Lilium Bolanderii* supposing Howell's specimens to be the same as those sent earlier by Dr. Bolander. In this way it came that Dr. Bolander had the honour of the name

and the credit of the discovery of a Lily he had never seen. As I cannot honour the real discoverer of this beautiful Lily I have named it after that good man and untiring botanist the late Dr. Albert Kellogg, than whom no Californian botanist is more worthy of credit and honour.

BEGONIA GLOIRE DE SCEAUX.

THE photograph I enclose is of a group of that lovely Begonia Gloire de Sceaux. My object in sending it is to draw attention to its usefulness as a decorative plant in midwinter, this photograph having been taken in the last week of December. It is not at all a difficult plant to grow, the principal thing being to get the cuttings struck early and to give the young plants a good start, afterwards growing on in an intermediate temperature all the summer. If the plants are required to flower in midwinter the temperature must be raised in the autumn, and they must be given a light sunny position as near to the glass as possible. Treated in this way it is a splendid thing for house decoration, the leaves alone being most distinct, but when covered with bloom it is worthy of the admiration it attracts, especially if in flower in the dull dark days of midwinter.

I feel confident that anyone who has not grown this Begonia and will give it a fair trial will be greatly pleased with it, especially as a plant for indoor decoration. For this purpose

it is one of the very best winter-flowering plants we have.

J. G. WESTON.

The Gardens, Bessborough, County Kilkenny, Ireland.

TREES AND SHRUBS.

GROUPING EVERGREENS.

ONLY those kinds of good constitution and easily managed will be mentioned.

ACQUA JAPONICA MACULATA.

This shows to the best advantage when planted in large groups, and enjoys a deep stiff soil, which should be well trenched; strictly avoid overcrowding. Plant at least 8 feet apart all ways, so that each plant can develop into a well grown specimen, and to every twelve female plants add one male, and the result will be a wealth of the beautiful red berries during spring and summer. These will require little attention for years, just merely thinning out long straggling branches once a year.

BERBERIS (SYN. MAHONIA) AQUIFOLIUM

or Holly-leaved Barberry is too well known to need much description. It is one of the most useful and accommodating of shrubs, and will succeed on almost any kind of soil, and either in the open or under the shade of trees it makes itself quite at home. For clothing banks few things can equal it. It should be planted when in a small state 18 inches apart, choosing the beginning of April for the purpose. It may be allowed to take care of itself after once established.

BOX.

The whole of the Box family make splendid material for this style of planting when the soil lends itself to their requirements, but it is waste of time to attempt planting in large quantities unless it does, as tree Box is too slow growing, and light surface with a chalky sub-soil is what it enjoys.

CERASUS LAURO-CERASUS.

The two best Laurels I am acquainted with are *C. l.-c. caucasica*, the hardest of the whole family, and may be severely pruned. For clothing large bare places, mounds, or banks it is well suited when kept trimmed down hard; indeed, I know of nothing to surpass it at any season of the year. Viewed from a distance it is generally mistaken for a batch of well grown Rhododendrons. *Rotundifolia* is also a splendid variety with larger foliage, but not so hardy. The ground in which these are to be planted should be trenched or bastard trenched, and small plants should be planted 3 feet apart all ways. To keep them in a good condition prune hard down during the growing season twice, if not three times, when they will remain in good health for many years. *Cerasus lusitanica* (Portugal Laurel) is well adapted for heavy soils, and its beautiful dark green foliage is very telling in the distance. This should be planted likewise in trenched ground at a distance of 5 feet apart, and pruned once only during the year. So treated splendid beds are formed when suitable positions are chosen.

COTONEASTER BUXIFOLIA AND WHEELERI,

very nearly allied to each other, are fine strong growing evergreens, and will succeed in almost any soil. They are well adapted for making beds, covering large boulders, or the old roots of trees. *C. buxifolia* is a graceful and pleasing plant when covered with its bright berries and allowed to assume its natural habit. Plant 3 feet apart, merely thinning out the growths occasionally.

COTONEASTER MICROPHYLLA.

A very old but charming shrub, well suited for almost any kind of planting, and when arranged on a raised position, or on overhanging rocks, tree roots, and such like, it forms in masses a pleasing sight, especially when thickly studded with its beautiful berries. It sometimes becomes badly infested with brown scale, but this is easily



CAMPANULA PYRAMIDALIS IN THE ISLE OF WIGHT.

eradicated with a strong solution of soft soap and water, which can be applied with a syringe.

ILEX AQUIFOLIUM (THE COMMON HOLLY).

The Holly is one of the very finest of our evergreens for bold planting. Fortunately, it is one of the few evergreens that will succeed and grow luxuriantly under the drip of trees, where many other things quite fail to exist. Large breadths of Holly in good health are a pleasure to look at at all seasons of the year, particularly when well laden with bright scarlet berries. The Holly is seen at its best on light, well drained soils, that of a stiff clayey nature, especially so when water-logged being the most unfavourable to its growth. Fortunately, it will adapt itself to any mode of pruning, but unquestionably the best way to treat it is to plant in large bold clumps, allowing it to grow away at its own sweet will. Many of the more uncommon varieties, both green and variegated, make highly attractive groups and beds, and where expense is of little object should most certainly be planted.

LIGUSTRUM VULGARE (THE COMMON EVERGREEN PRIVET),

which is a native of Great Britain, lends itself admirably for grouping beneath the shade of trees, but one rule must be rigidly enforced, and that is clip the growths at least three or four times during the summer, otherwise it will become spindly. We have here some groups of this common plant planted round the stems of large trees; so treated it always attracts the attention of visitors. Few fail to ask when a short distance away what it is.

LIGUSTRUM OVALIFOLIUM

is not so good for this purpose, and is not strictly an evergreen, for during severe winters the foliage always becomes brown, and it has an objectionable habit of dying off in patches. *L. ovalifolium aureum elegantissimum* is worthy of a place in any garden. Few golden foliage plants are more effective than this. It should be planted in trenched

ground 18 inches apart all ways, and kept pruned fairly hard. It is easily propagated by inserting young growths as cuttings in heat in autumn or spring. It is not suitable for wild planting where ground game abounds, as the feathered tribe has a particular liking for it.

RHODODENDRONS.

Of course one must possess a suitable soil to plant the more beautiful varieties in any quantity; nevertheless, the common *Ponticum* and hybrid seedlings, of which there are now fortunately a great variety, will succeed in nearly all kinds of land destitute of lime. The ground should be thoroughly broken up during autumn, and the planting done 4 feet apart in the spring. The seed vessels should be picked off after flowering, and the plants are much benefited by an occasional top-dressing of road grit and leaf soil. Even here on a cold London clay, where the ground has been well drained and treated as above, they succeed very well indeed.

RUSCUS ACULEATUS (BUTCHER'S BROOM),

a native of this country, is invaluable for planting in masses in shady spots. It appears to enjoy the drip from other trees, and is very accommodating as to soil and position, but likes to remain undisturbed. *Ruscus racemosus*, which is a native of Portugal, and commonly called the Alexandrian Laurel, is unquestionably the best of the *Ruscus* family, and its growth very much resembles that of the Bamboo. It is rarer than the commoner kinds, but it deserves extended cultivation, being worthy of a prominent position in any part of the gardens or grounds. It berries freely in some seasons, thus giving it a charming appearance. It lasts remarkably well, and is very handsome in a cut state. It enjoys a deep rich loam, but will not fail to give a good account of itself on any kind of soil.

ULEX EUROPEUS (COMMON GORSE OR WHIN).

This common British plant needs little description here, as it is known and admired by all, for when seen in its wild state, where it is thoroughly naturalised, it presents a most charming sight. Semi-wild patches of land may easily be made suitable for this at little expense. During winter the land should either be ploughed or dug, and the seed sown during April, either in drills or broadcast, and the seedlings thinned to a respectable distance apart during the following spring. When once thoroughly established, little trouble will be experienced in keeping the ground well stocked. Occasionally, when the old plants become leggy, it should be cut close to the ground immediately after flowering, and in a short time these will break away freely from the bottom. *Ulex europæus flore pleno*, an invaluable plant for all kinds of ornamental planting, is, unfortunately, very expensive, as it has to be struck from cuttings and distributed in pots; nevertheless, it is a most important plant to have. The flower is a much brighter yellow than the common form, is produced more freely, and lasts a considerable time in beauty. It is very suitable for either making beds or forming large patches of colour behind rocks and among the fissures of the rock garden. It should be planted about 3 feet apart, in fairly good ground, and about every fifth year pruned down close to the ground.

VIBURNUM TINUS (LAURUSTINUS).

A beautiful evergreen flowering shrub, and generally well known, but unfortunately it is not sufficiently hardy to plant in many parts of the country, especially in exposed positions. It will grow and flower profusely on very shallow soil, and, indeed, in almost any kind. It makes a handsome bed, and should be planted 4 feet apart.

JUNIPERUS SABINA TAMARISCIFOLIA

is a beautiful plant for the fringe of a plantation, it is of robust habit, and the best of the Junipers for this kind of planting.

TAXUS BACCATA AUREA (THE GOLDEN YEW)

is a most effective evergreen shrub. It should be planted in open sunny positions. Without doubt it has no rival, being the most useful and telling golden evergreen shrub we have. It is somewhat slow growing, consequently should be planted fairly thick. Like the common green Yew, it succeeds in almost any kind of soil, but it colours best on a deep yellow loam in a thoroughly exposed position.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

THE CHIMNEY CAMPANULA.

This grand biennial Bell-flower (*C. pyramidalis*) is often seen as a pot plant in a house or conservatory; but because it is a fine pot plant for the late summer and early autumn—the time of year when pot plants are least wanted—it should not be neglected in the open garden. It is not so hardy as many of its relatives, though it surpasses them all in stature, but does well in the best climates of our islands. The illustration shows some seedlings in the garden of Mrs. Evans, Belgrave View, Ventnor, Isle of Wight.

THE FRUIT GARDEN.

SUMMER PRUNING OF WALL PLUMS.

MANY people with wall-trained Plum trees declare they do not pay for the large amount of space they occupy. Such trees often bear only once in two or three years, and then only produce half a crop. Were they pruned as carefully as Peaches and Apricots the results would be very different. Instead of this one often sees old-established trees a mass of growth, which, even after pruning, or what passes for pruning, stands out a foot from the wall, often more. The smallness of the crops may be due to the want of air the tree suffers from in such a system of growth, or to the fact of the trees having become exhausted in their early years by too heavy cropping, without a corresponding supply of plant-food. Generally the failure may be attributed to both these causes. This article will be confined to a description of the system of summer pruning, which is the whole of the pruning wall Plum trees should ever have, if the maximum of productiveness and healthfulness is the object sought after. The same principles, of course, apply to espaliers, bushes, pyramids, and cordons.

All gardeners know the meaning of gumming in stone fruit trees, especially Plums. It is often so severe as to cause the total loss of branches, especially with the Victoria Plum. It is generally caused by wounds made in pruning, which refuse to heal—like the flesh in an unsuccessful operation—but it may be almost entirely obviated, as a serious evil, by summer pruning.

To begin at the beginning, let us assume the tree has flowered and set its fruit and that many strong shoots are pushing forth in all directions, some above the wall, some straight out from the middle of the tree at right angles to the plane of the wall (breast-wood as it is called), and some at the ends or sides. Even before this stage light disbudding may be practised with great advantage. Where the shoots on a piece of last year's wood are breaking out too thickly they should be thinned, and if starting in positions where they cannot be utilised they may be removed altogether.

The first pruning, other than disbudding, should be begun as soon as the basal leaves of the new shoots are fully grown, or nearly so. The new growth may be divided into two classes, that which

will be required for the extension of the tree, or for the replacing of old and worn-out wood, and that which will not be so required.

Let us deal with the latter first. We want to form this into fruit spurs, as it is on spurs that most fruit is produced, with Plums as with so many other fruits. If these shoots are left to grow all the summer they will take a good deal of the strength of the tree, which should go to the production of fine fruit, and the formation of fine, fat fruit buds for next season, besides keeping the sun and air from the fruit, and, moreover, when cut back to three or four buds in the late summer, autumn, or winter, the result, with the strongest of them, will be that, instead of producing blossom next season, or even fruit spurs, they will produce shoots similar to what they were themselves the previous season. This is where the advantage of a complete system of summer pruning comes in.

When the basal leaves of the shoots are, as before stated, about their full size, pinch the shoots back to three or four leaves. The end bud of the piece remaining will produce another shoot in two or three weeks, and this should be similarly pinched back to two leaves, and so on again if necessary. This has the effect, firstly, of lessening the robustness of the growth of the shoot, as after each pinching a weaker shoot results, and it is rankness of growth which is the most common cause of non-fruitfulness; secondly, the original piece of the first shoot hardens and becomes much more woody than it would have done if allowed to grow its full length, and the better ripened the wood the better is the chance of its producing fruit; and, thirdly, the lessened demand upon the sap, as the result of the pinching, while the new shoot is being prepared to take the place of the part pinched off, causes the buds at the base of the pinched shoot to swell into fat buds ready to push forth bloom the following season, instead of remaining dormant as they might otherwise do.

Having pinched the shoot as often as necessary during the summer, in August or September the original shoot may be cut back to two eyes. The cut will heal rapidly, and there will be no fear of

gumming, supposing the cuts, of course, to be cleanly made.

The treatment of the other shoots referred to—those needed for the extension of the tree or the replacing of old and worn-out wood—may be dismissed more briefly. If the shoots are of only moderate strength they may be left to grow at their own will till the late summer, when they may be cut back to the length it is proposed to retain. The nailing in to replace old wood must, of course, be deferred till the fruit has been gathered.

This cutting back, if done when the fruit is undergoing its final swelling and changing colour, is of assistance to its development, as it gives it all the sap possible, resulting in increased size and finer flavour. If, on the other hand, any shoot is very strong and rank, it should be pinched back the end of May or beginning of June to a bud pointing in the same direction, which will send out a shoot forming a continuation of the original one. About 6 inches may be left at this first pinching, and another 6 inches at a second pinching, if it is necessary.

The result will be a check to its luxuriance of growth, and a greater likelihood of the production of fruit spurs along its length next season, or even of fruit. Gross shoots should always be looked out for and treated in this way, as if left unchecked they run away with the strength of the tree and never produce fruit, either the next year or the year after that.

By following this system the whole of the pruning is accomplished by September, and all wounds healed before any frost comes. Not only the method, but the reasons for the method, have been given at such length because pruning is so much better when done with a knowledge of the principles underlying the practice, the work in one case being done scientifically, and in the other by mere rule of thumb. In nothing is it more common than in pruning for points to present themselves upon which neither books nor papers throw any light, and then it is that the man who knows the scientific principles upon which he is working is seldom at a loss to know what it is best to do.

ALGER PETTS.

A SIMPLE GROUPING OF BEDDING PLANTS.

THE many beautiful varieties of zonal Pelargonium, which come under the popular term Geranium, a convenient name that has now passed into the language, are above all other plants most suitable for summer display in pots, vases, or in connection with any kind of stonework. The illustration shows a stone-bordered space in connection with an arrangement of steps and tank in a modest garden. In the middle is a planting of Cannas, informally bordered and grouped with the fine double Geranium King of Denmark, a beautiful kind of salmon-pink colouring. This simple association of two grand summer plants has much more pictorial effect than could be gained by the use of a larger number of different plants.

NOTES FROM SCOTLAND.

CULZEAN CASTLE, on the Ayrshire Coast, overlooking the picturesque Ailsa Craig, is surrounded by a naturally beautiful sea and landscape, the latter modified by many years of thoughtful attention. The grounds have been very beautiful during the whole months of spring until the present time, rendered so by an uninterrupted display of bulbous plants in flower—Snowdrops, Crocus, Narcissus, Hyacinths, and Tulips—all of which have been planted in the most lavish manner on the grass, by the sides of drives, and on the lawns, so that entering by any of the lodges the visitor finds flowers everywhere until he emerges once more into the public road. Spanish Irises for a later display have been tried, but rabbits have proved so fond of the foliage of these that they have not been a success. Rooks have also proved troublesome in Ayrshire, being fond of Crocus corms, and pheasants generally are addicted to Tulip roots where they are plentiful, rats and mice also claiming a share of these good things. Extensive plantations, such as those at Culzean, however, only require time to outgrow the effects of depredations of this character, and deep planting proves a great hindrance to the selfish labours of bird and beast.

The Marquis and Marchioness of Ailsa devote much thought to the embellishment of their lovely place, and have undoubtedly brought it to a foremost position for spring flowers and wild gardening. The gardens proper, under the control of Mr. Murray, have long been celebrated for their fruit productions, and especially for Grapes. Talking over the

VAGARIES OF GLADIOLUS

the other day with Mr. Garrett, who manages the Right Hon. A. J. Balfour's gardens, at Whittinghame, he assured me that planting the corms 8 inches below the surface was a most effective way of protecting them from frost and against the disease that is so fatal to the corms of the Gandavensis section, varieties of which alone are cultivated. This is a point worth general attention, for if a section so admittedly tender as Gandavensis is can be grown as a hardy plant in a cold district of Scotland, the possibility of its succeeding elsewhere is greatly enhanced. Moreover, we may



SIMPLE GROUPING OF SUMMER FLOWERS

expect the superior Child-II section, with its more robust habit of growth, to succeed equally well under similar conditions, and, indeed, a batch of several hundred young corms I left out last winter have passed it safely, the beds being merely covered with a thin layer of dry, light material.

FRUIT BLOSSOM.

A peculiarity of the season so far has been the sparsity of blossoms on flowering shrubs. Later kinds, fortunately, promise a more abundant crop, double Lilacs, for instance, showing better than I remember them ever to have done previously.

Fortunately, too, fruit trees are in most cases loaded with blossom, so that, with the exception of Apricots, which in the more forward districts were badly cut up by frost, the fruit season so far promises well. Plums, Cherries, and young Pear trees in particular, are flowering in the most profuse manner. Peaches have set a fair crop, but the bitter east wind has already produced the "curl" in those gardens exposed to the east. Friends of

MR. MILNE,

gardener at Minto House, near Hawick, will regret to learn that the state of his health necessitates a long holiday, which, by the kindness of Lord and Lady Minto, he is to spend in Canada. Meanwhile, his duties are undertaken by Mr. Watson, who has recently retired from the control of the gardens at Hendersyde Park, Kelso, at which pretty place he had been for many years gardener, and where Malmaison and other Carnations were well cultivated, besides, of course, other flowers. B.

AN ARTIST'S NOTE-BOOK.

LARGE SINGLE CHRYSANTHEMUMS.

THE single Chrysanthemums have advanced greatly in popularity, especially the quaint and fantastic forms represented by the Japanese type of the flower. This partiality for the Japanese Chrysanthemum, if one may judge by results achieved, has had the effect of stimulating raisers to give increased attention to these large flowers, and, as a consequence, other types of the Chrysanthemum have had to suffer. The wonder is that the Anemones, Incurved, Pompons, and single sorts have survived. In the Jubilee edition of the National Chrysanthemum Society's catalogue, which was published in 1896, the committee responsible for its compilation determined to sub-divide the singles into (a) large flowering and (b) small flowering varieties. Since the publication of the selections compiled many new and choice sorts have been put into commerce, some of the best sorts at present in cultivation having been distributed in recent years.

It is for late cutting that the single varieties are so valuable, namely, the latter part of November and December. There is an increasing number of November flowering varieties, and among these earlier kinds are some of the prettiest and best of the small flowered singles in cultivation. To see the singles at their best the plants should be flowered on terminal buds, otherwise many of the varieties develop large, badly coloured and semi-double blossoms. As terminal buds are used to produce flowers, it is easy to understand why the plants bloom so late. If bush plants are desired,

the young plants should be stopped when they are 6 inches high, and this operation repeated occasionally afterwards during the summer season, but never later than the first week in July. Where cut flowers are wanted, the young plants should be planted out in the open in May or June, and lifted in the late autumn when the buds are well set. These same plants may be potted up or replanted in the glass structure prepared for their reception, and with a cool system of culture cut flowers may be had right throughout December and early January. It is a matter for regret that so many of the catalogued single varieties are not true to name. Many of them are poor semi-double flowers,

introduced in 1887, still holds a high position. It is a very large flower, with broad stout florets, colour rich yellow. It is a mid-season variety, and is a tall grower. One of the prettiest of the large flowered singles is Earlswood Beauty, this being a lovely primrose, of exquisite form and very free. A pure white sport from the last-named is Daisy Brett, being identical with the parent plant in every particular except in colour. Kate Williams is a pretty sweet scented flower, with curling petals and of good form; the colour is a rich golden yellow. Jane, introduced in 1885, is still considered a good white, having long twisted florets; it is a mid-season variety, and is rather dwarf. Yellow Jane is another excellent sort, very similar in form to Jane, the colour being a bright yellow. A pretty flower is May Jeal, colour rose-violet, lined white, and of good habit. The variety Rev. W. E. Remfrey has flowers of a deep crimson colour, the plant attaining a height slightly over 4 feet; but in the way of crimsons there is none to excel in beauty a variety known as Framfield Beauty. This is a deep rich velvety crimson. A pure white sort which is regarded very highly is Eucharis, this being free and invaluable for providing cut flowers. A distinct kind of a refined shade of creamy primrose is Victoria, a plant of recent introduction; the flower has long drooping florets. Another of the newer sorts is Elsie Neville, a large flower of charming form, with long florets gracefully arranged. The colour is a bright shade of terra-cotta, and the plant is dwarf. A distinctly pleasing flower is Florrie, having long florets of medium width, the colour being deep cerise-pink. This completes a list of twelve useful varieties. D. B. CRANE.

THE FLOWER GARDEN.

ALPINE ANEMONES.

IN August, 1898, I obtained near Grindelwald some roots of *Anemone narcissiflora* and some of *Anemone alpina*. The former were grown near the Eiger Glacier, at a height of some 7,000 feet, the latter on the slopes of the Wetterhorn at about 5,000 feet. Both were in flower when taken, and both had to pass some ten days of suspended animation in a close case before being planted in their new home in Ireland. In selecting their new quarters care was taken to reproduce in miniature the salient features of the situation from which the flowers had come. They were placed high upon a steep slope in the rock garden, very rapid drainage was ensured, and a compost of peat and sharp grit, freely interspersed with stones, was laid. In 1899 both the Anemones showed that they were alive, but did nothing more. Better results were obtained in 1900, when *A. narcissiflora* bloomed vigorously, coming in early in June and lasting nearly three weeks; but I have had to wait till now for a flower of *A. alpina*. It is worth waiting for. The large sulphur centre, with its halo of petals, soft white inside and pale lavender outside, makes a more fascinating sight.

Side by side with this success it may be helpful to record a failure. Being particularly anxious to be the owner of alpine Anemones, and not being sanguine as to the prospects of those brought by myself, I purchased plants of *A. alpina* from a well-known grower. A handbook on the subject informed me that they would grow freely in deep garden soil. The results were disastrous. Roots planted in late autumn completely melted away before the following spring. Dunderum, Dublin. H. K. M.

LIKE other Anemones, the alpine kinds grow freely from quite fresh seed. If "H. K. M." has any friends in alpine regions who can send him



SINGLE CHRYSANTHE-

MUM ADMIRAL

SIR T. SYMONDS.

(About natural size. From
a drawing by H. G.
Moon.)

and as such cannot be regarded with favour. The National Chrysanthemum Society defines the flowers of a single variety as follows:—"They may be of any size and form, but they should not contain more than a double row of ray florets or disc florets of sufficient length to form a raised disc or cushion, as in the case of the Anemone blooms." Of the large flowering kinds, Admiral Sir T. Symonds,

seed of *A. alpina* or *A. sulphurea*, and he will sow it in winter—not keep it over till March—he will get strong seedlings in plenty. I collected seed of *A. alpina* in the mountains one autumn and sowed it in November in an open seed bed. It came up strongly in January, and was the same spring planted in flattish slopes in the base of a rock garden, places that would be almost in the same conditions as ordinary garden borders (soil deep peaty sand). The plants thrived well and flowered abundantly, and made permanent groups that were for many years one of the best things of the rock garden.

Careful as undoubtedly are the best nursery growers of alpine plants, one can hardly expect these deep-rooted things, kept ready for delivery in pots, to have such success as home-grown seedlings, grown from fresh seed and having to endure only the one slight check of removal from seed bed to prepared permanent place in the same garden. X.

RAISED BEDS.

Artificially raised beds have gradually dropped out of the flower garden, and, although with the amount of plants of tall habit at disposal for summer planting their loss is hardly to be regretted, I dare say many like myself can recall some fine displays on such beds, and think that one or two might find a place in some outlying part in the majority of gardens. The orthodox form was a circular row of stout Fir poles some 30 inches in height, a border 4 feet or 5 feet in width, and then another row of poles with a higher central bed. *Maurandya barclayana*, blue and white trailing *Campanulas*, and the Canary Creeper were favourite outer edge plants, and a brave display they made, while the remainder of the bed was built up as the taste of the planter

suggested, specimen *Heliotropes*, with a groundwork of *Centaurea*, *Eucalyptus*, with scarlet or pink *Geraniums*, and afterwards, as they became popular, tuberous *Begonias*, with striped Maize, or white or yellow *Marguerites*, foliage plants like *Grevillea robusta*, and other things. *Fuchsias*, too, were among the things used, and few things were better for the purpose than well grown plants of such sorts as General Roberts, Mrs. Marshall, Annette, and others. E. BURRELL.

IVY AS AN EDGING TO PATHS.

In the woodland, especially under trees where it is difficult to get anything to grow, the various Ivies are useful, as they do not appear to mind the shade in the least. Where a quick growing, thick edging is wished for, no Ivy is better than the ordinary Irish variety, *canariensis*. If a more compact variety is wished for, the ordinary English Ivy might be used. Where so many persons make a mistake, even in attempting to cultivate Ivy under trees, is that of failing to provide a rich soil to give the plants a good start. Trenching the ground 18 inches deep, adding half-decayed manure freely to the top spit of soil, and giving to each plant a shovelful of prepared compost, such as decayed vegetable refuse, old potting soil, and wood ashes. When first planted, peg the plants down close to the soil, so that they will in time emit roots and grow away more vigorously, as well as have a tidier appearance. When once established little attention is required afterwards to keep the edgings in order. E. M.

A LAVENDER HEDGE.

An English garden is scarcely worthy of its name if it disregards the claim of this beautiful

fragrant bush, so well beloved of our ancestors. There is something specially English in a hedge of Lavender, with its delicious aromatic bloom, and its neat, grey, bushy growth. It is a thing for all kinds of places in a garden, provided they are dry and sunny, for it associates happily with flowering plants and other small shrubs, and does well in free pictorial masses on rough banks; it also submits to discipline in ordered ranks as a small hedge plant, or even to the shears in the most formal of gardens.

AMATEURS' PERPLEXITIES.

DAFFODILS EMPEROR AND EMPRESS FAILING.

WHAT do you think is the reason that the Emperor and Empress do so badly here (Northumberland), while *Princeps* grows so well? M. T.

[This letter was accompanied by blooms of these three Daffodils, *Princeps* unusually fine, and *Emperor* and *Empress* both slightly under size. We can only suppose that your *Emperor* and *Empress* would be the better for removal every two years. In some places they are better for being replanted every year. You are very lucky to do so well with *Princeps*, which has the reputation of being a very shy bloomer. We have to remember that the originals of these Daffodils come from a great variety of soils and altitudes, and that when we put them together in our gardens we have to expect some to do better and some less well.

It is impossible to say, except by experience in the place itself, how often *Narcissus* and other bulbs need removal. In light sandy soil they are best moved every three years. A great grower whose garden is on chalk has to move all his



A LAVENDER WALK IN EARLY SUMMER.



BEGONIA GLAUCOPHYLLA AT KEW—7 FEET 6 INCHES HIGH.

Narcissus every year. We should advise you to try moving some of the Emperor and Empress every year, and to leave some for two years, and then to see which does the best. Many people will, perhaps, say that this is too much trouble, but then gardening consists mainly in taking trouble.—Eds.]

GARDEN ADDITIONS.

"V. B." writes thus:—"I shall be very much obliged if you will help me with your advice in making an addition to my garden. I am adding about three acres of old meadow land, situated on the highest point in this neighbourhood (near Liverpool), treeless, and exposed to violent north-west winds. There are to be two 300 feet by 13 feet (or more if advisable) borders, divided by a 5 feet path, to be planted this autumn with hardy perennials, Roses, and other permanent things. I should like fruit and other flowering trees behind each border; those to the north-west to be amply sheltered by a quickly grown wind-screen. I desire to begin the enjoyment of this addition to my garden, in which I work a great deal, as early as possible."

[The quickest growing trees are the white and grey Poplars, but they are deciduous, and would very soon rob and destroy the borders, besides, their size is out of all proportion. The best thing would be to plant Scotch Fir not more than 18 inches high in October, about three rows deep, keeping the nearest row some 15 feet from the back of the border, and the next rows each 10 feet apart, and to plant the trees in each row

in the alternate spaces and about 12 feet apart in the rows.

Such a shelter screen cannot possibly be hurried, especially in an exposed place. Hurry, which generally means planting things of too large a size, nearly always brings failure and the loss of a year. No indication is given of the nature of the soil. If it is chalky, Yew, Box, or Beech would do, if loamy any of these or Hornbeam. If at all light or quite light nothing is so good as Scotch Fir. No permanent good work in gardening or tree planting can be done in a sudden and hurried way. No doubt occasions often occur when owners of gardens may strongly desire, as in the present case, to make a piece of garden and have a growing screen almost at once. It is not that the thing is absolutely impossible, but it is so difficult and expensive that few people will face it. In a strong soil, fairly large Hollies 6 feet to 10 feet high can be planted in May, but they would have to be elaborately staked or guyed, and constantly watched, watered, and sheltered, besides having to be paid for at a high price. If such a course is not out of the question it would be well to make an agreement with the nurseryman to plant and secure them himself and to replace failures in the autumn.

The proportions of the path to the borders of 300 feet might be bettered; the path should be at least 6 feet wide or it will look mean.

It is impossible in London to say what would be the best means of procuring Hop and Bean poles or material for Rose arches, trellis, &c. It is a local matter on which advice had better be taken from a neighbouring nurseryman or outdoor carpenter, the kind of workman who makes field gates and wooden fencing and outhouses; he would also know the best kind of nails; but near London such work is generally put together with the ordinary 4-inch nails or longer, according to the thickness of the stuff.—Eds.]

BEGONIA GLAUCOPHYLLA.

THIS is one of the best of the several shrubby species of Begonia suitable for basket culture. It is a Brazilian plant, making long, slender, branching stems, from which numerous aerial roots are produced in a similar manner to the Ivy. The leaves are obliquely ovate, fleshy, and glabrous. They are dark green, with rose-coloured nerves, the whole leaf being suffused with rose when young. The flowers are rosy red, and borne in dense pendulous cymes from April onwards for three months. The subject of the illustration is growing in the Mexican house at Kew. The basket is 18 inches across, and was planted with six rooted cuttings two years ago. Twelve months ago it measured 2 feet each way. At the present time it is a

perfect pyramid, 7 feet 6 inches in height and 3½ feet in diameter in the widest part. Throughout the summer it has been grown without fire heat, whilst the rest of the year the maximum fire heat temperature has been 55°. The compost used in the first place was good fibrous peat and loam in equal proportions. This has since been enriched from time to time with surfacings of artificial manures and applications of soot and cow manure-water. The specimen hangs at the south end of the house, and it is exposed to full sun. On bright days it is freely syringed, and requires watering several times. W. D.

AMERICAN NOTES.

MR. FREDERICK OLMSTED.

IN honour of Frederick Law Olmsted, the park commissioners of Boston and Brookline, acting in concert, have recently given the name of Olmsted Park to all that part of the Boston and Brookline Parks which extends from Washington Street at the end of the riverway in Brookline to the arbourway at the junction of Pond and Prince Streets in Jamaica Plain, embracing what was formerly called Leverett Park and Jamaica Park, and one of the most interesting and beautiful portions of the entire Boston Park system. By this action the commissioners have shown their appreciation of a great artist, who has impressed himself as no other artist has ever been able to impress himself upon this country, and a man who has worked always for the benefit of humanity.

A native of Connecticut, Frederick Law Olmsted first became known to the public through a series of books, in which he gave his impressions obtained during several long horseback journeys through the Atlantic slave states and from Texas to Carolina. These books gave to the people of the north their first authentic information concerning much of the southern country, and to most of them their first idea of the true workings of the slave system, and exerted a powerful influence in rousing the public opinion which finally produced the war of secession and the freedom of the slaves.

Later Mr. Olmsted became a farmer on Staten Island, and in 1852, when a successful movement was made in New York to secure a great public park for that city, Mr. Olmsted, in association with Calvin Vaux, a young English architect who had been brought to this country by Downing to plan country houses, presented in competition the plan for Central Park, which was adopted and afterwards executed. This plan was a work of genius remarkable in the fact that the author had had no special preparation for it except in his inherent love of nature which he had cultivated in his long horseback journeys through the south, and in a journey which he had made through rural England on foot. The plan was remarkable, too, in the forethought which the author displayed for the then hardly suspected park requirements of the people of a great city, and in the arrangements made to enable its traffic to go on uninterruptedly across the park without interfering with its rural character. All things considered, Mr. Olmsted has never surpassed his first efforts at park making, and Central Park must stand as the best expression of his creative genius. Mr. Olmsted subsequently designed Prospect Park in Brooklyn, which is usually considered more beautiful, but this beauty is due largely to natural advantages of topography and to the existence of fine natural woods.

During the war Mr. Olmsted did the country good service as secretary of the United States Sanitary Commission, and in the years immediately following the war he was able further to gratify his love for nature in California, where he resided near the Yosemite Valley as agent for the owners of the lands embraced in the Fremont grant. Returning to the east, he continued his profession as landscape gardener, and made plans more or less elaborate for parks in many of the principal cities of the United States. In 1875, having been invited to prepare a scheme for a system of parks for the city of Boston, he moved to Cambridge, and then

to Brookline, where he has continued to reside, and where some of his most important work has been planned. In this latter period Mr. Olmsted developed the unrivalled Boston Park system, the Biltmore estate, the property of Mr. George W. Vanderbilt, with its 4,000 acres of home grounds, and the Columbian Exposition at Chicago. The beauty and success of this last enterprise were chiefly due to Mr. Olmsted, who placed the buildings and laid out and developed the grounds and waterways which surrounded them.

The park commissioners of Boston and Brookline have wisely commemorated this great artist in a manner which is eminently fitting, and the city of Boston is to be congratulated in securing for one of its principal parks the name of a man pre-eminent in his art, and through his art one of the great benefactors of the American people.—*American Gardening.*

THE WEEPING ASPEN.

(*POPULUS TREMULA* VAR. *PENDULA*.)

TOWARDS the latter end of February and during the early part of March few trees and shrubs are to be had in flower. One of them, however, is the variety of Poplar here illustrated, and none is better worthy of a place in our gardens. It is the weeping form of the Aspen (*Populus tremula*), which in its typical state is a tree growing 50 feet or more in height. It is a native of Britain, and is common in other parts of Europe, being a native also of North Asia and North Africa. The variety now figured is an old garden plant, and for seventy years (possibly longer) has been in cultivation. The Aspen bears its male and female flowers on different trees, but of this weeping variety I have only seen trees of the male or pollen-bearing sort. If seed-bearing trees are to be had at all they are much less common than the male, which in any case would be the handsomer as a flowering tree. Being propagated exclusively by artificial methods, *i.e.*, grafts or cuttings—not by seeds—the progeny, of course, remains the same sex as the original tree that first sported into a weeping habit, and from which they are all derived.

The catkins of the Weeping Aspen are 3 inches to 4 inches long, and cylindrical. They are borne in very great profusion, as the picture will show, and although they have no bright colour-beauty to recommend them, the soft grey-brown tints of the masses of swaying catkins are very pleasing, the more so as they are amongst the first evidences of the reawakening of plant life just as winter is passing away. The catkins are very light and flexible, and the slightest movement of the air sets them in motion. The tree has, consequently, pretty much the same restless appearance during the time it is in flower as it has later on, when the foliage is expanded—the ceaseless motion of which has for ages been proverbial.

The Weeping Aspen is frequently a short-lived tree, and branches will often die after flowering. This is more especially the case when grown in dry positions, for the Aspen in all its forms loves moisture. But it is due also, I believe, to its being grafted on stocks of other species of Poplar—*P. alba* and *P. canescens* being often used. It would be worth while to get it on its own roots by means of layers or cuttings. In default of that the common Aspen should be used as a stock.

Arboretum, Kew.

W. J. BEAN.

EARLY-FLOWERING HIMALAYAN RHODODENDRONS.

It is chiefly to lovers of rare, as well as beautiful, hardy shrubs that the following three species of Himalayan Rhododendrons will be of particular interest. They are not so vigorous as the May and June-flowering varieties, and they certainly require more care in regard to choice of position and cultivation generally. It is, in fact, only in places where the climate is about the same as that of our south and south-western counties that they can be expected to show their best out of doors. But in respect to their flowers it may safely be said that their brilliant tints are

scarcely rivalled amongst hardy shrubs, and as they come just when winter is giving way to spring, their charm is on that account all the greater.

R. THOMSONI.

The flowers of this Rhododendron are individually the largest of all the species that can be grown outside near London, and this, together with their rich blood-red colour and the blue-white under-surface of the leaf, furnish ample distinguishing characters. The blossoms are borne, not many together, in loose trusses, the crimson corolla being 3 inches or so across. The calyx, too, is very distinct, being large and saucer-shaped. The species has been fifty years in cultivation, but has not been very extensively used by hybridists. The late Mr. Mangles worked upon it to some extent, and *Ascot Brilliant*—a variety to be obtained in some nurseries—is one of its progeny, and undoubtedly one of the finest coloured of all hardy Rhododendrons. It is also hardier than *R. Thomsoni* itself, which requires a warm, exceptionally sheltered corner.

R. NIVEUM.

Some of the forms of this species are very inferior to others, and have small trusses of flowers, and these of a dull lilac. There are others, however, that have much larger trusses, and the flowers are of a bright purplish lilac, which are decidedly beautiful and worth growing. One of these has lately been flowering in the Rhododendron dell at Kew. The trusses on this plant were over 4 inches in diameter, the flowers being closely packed, bell-shaped, and 2 inches across. *Rhododendron niveum* is one of the hardiest of the Himalayan group, and as a foliage plant it has some claim to notice. When the young leaves unfold they are covered all over with a felt-like substance, almost as pure white as snow. This ultimately falls off the upper surface of the leaf, but remains on the underside, and turns a pale brown. The better forms of the species are worth growing for the almost unique colour of the flowers (among Rhododendrons) and for the early date at which they appear.

R. FULGENS.

It is not every year that the handsome flowers of this species succeed in escaping injury by frost, but when they do this Rhododendron becomes one of the most effective and remarkable of all spring-flowering shrubs. I have seen bushes fully out in bloom in March, but this year the middle of April saw the flowers scarcely expanded. They appear in rather small compact rounded trusses, about 3½ inches across, and are of a blood-red colour, not surpassed in brilliancy by the flowers of any other hardy shrub. The leaves of this Rhododendron are oblong and about 4 inches long, their most noteworthy character being the rich rust-coloured felt with which they are clothed beneath.

Another Himalayan species—*R. campanulatum*—has leaves of a similar description, and it has frequently been grown as *R. fulgens*. Its flowers, however, are purple and come later in the season. Another pretty feature of *R. fulgens* is seen when the young growths are being made, the lower part of each new shoot being furnished with brightly coloured red bracts. It grows on the Sikkim Himalayas at elevations of 12,000 feet to 14,000 feet, and Sir Joseph Hooker, through whose agency it was introduced exactly fifty years ago, remarks that it



THE WEEPING ASPEN (*POPULUS TREMULA* VAR. *PENDULA*) IN FLOWER.

is "one of the richest ornaments of those inhospitable regions."

Kew.

B.

SHORT STUDIES ON PLANT LIFE.—IX.

THE UNFOLDING OF BUDS.

IN the first study I described the nature of buds, and as trees are now beginning to unfold them I should like to draw attention to a very interesting feature, which is readily observable. Let us take, for example, the buds of a Lime tree. They are formed in autumn, and consist of numerous little scales—really stipules—which protect the very young leaves within them. As soon as the buds open they begin to elongate and curve downwards

(Fig. 1). The consequence is that as soon as a leaf is produced it stands in a vertical plane (Fig. 2). The minor stipules now grow out and more or less protect the young leaves, as seen in Figs. 2 and 3. It is not until the leaves are completely formed that they rise up and assume a permanently horizontal position.

Moreover, a point to be noticed is that when the leaves first escape from the bud they have their two halves of the blade folded together or "conduplicate," as it is called, like a

piece of note paper. The object of these two preceding features, the folding of the blades and the assumption of a vertical position, is to prevent any injury by radiation of heat, especially from the upper surfaces of the leaves. The young conduplicate condition is seen in the Laburnum (Fig. 4), the Rose, or Clover. In the Horse Chestnut the leaf is composed of several leaflets. As soon as it escapes the leaflets all hang vertically downwards (Fig. 5).

They overlap one another until sufficiently grown to be able to resist any chance of chill. This position closely resembles that of the leaflets of some Lupines when asleep at night (Fig. 6). In the Walnut every leaflet of the second pair is conduplicate, and the petiole at once curves strongly downwards (Fig. 7),

but rises again when the leaflets have acquired their full size. In the Ash, the leaf, which resembles that of the Walnut, the petiole stands erect. In both cases the leaflets, besides being conduplicate, are in a vertical plane.

The single leaves of the Portugal Laurel also stand erect when first developing, and each leaf is also conduplicate (Fig. 8). In the Pear the leaves are at first erect, also conduplicate, but with the addi-

tional protection in having the edges unrolled. If leaves be "opposite," as in Periwinkle and St. John's Wort, then the method of protecting



6. LEAF OF LUMNUS PILOSUS WHEN ASLEEP.



7. YOUNG LEAF OF WALNUT.

the upper surfaces is secured by placing the two leaves firmly in contact, till they have sufficiently grown to allow of their separating.

These few cases will be enough to show the reader what to look for. It may be added that intense heat or cold may induce the leaves to drop vertically so as to avoid injury under those conditions.

G. HENSLOW.

BOOKS.

The British Gardener.*

—We scarcely think the British gardener will be pleased with this latest addition to the garden library. It is neither of use to the amateur nor the professional, and shows signs of hasty preparation, which, considering its price and the fact that there is not an illustration in it beyond a few roughly prepared diagrams, one does not expect. The diagram of a centrepiece for flowers (page 345) is terrible, and the Orchid family is summed up in about eleven pages. There are frequent blunders in the spelling of the names of the plants: *Odontoglossum citrosum* for *citrosium* next to *corinarium* for *coronarium*, and so on. We turn to page 300 and note the selection of *Narcissus*. Six trumpet Daffodils are mentioned as the best, two of which are the beautiful *maximus* and *obvallaris*, but more unsatisfactory kinds for general gardens could not be found. The scope of the book is ambitious, and by careful editing, additions, and some omissions, could be made a trustworthy guide.

The Journal of the Royal Horticultural Society.†—The journal of the society should be read by everyone interested in horticulture, which means that every horticulturist should become a fellow, for the simple reason that it is included in the guinea subscription, and is worth that sum alone as a record of horticultural progress, with important articles too, or rather the lectures delivered at the society's fortnightly meetings. It has never been better edited in the course of its existence than at the present time, and the Rev. W. Wilks seems to add a new feature every year. "Notes and Gleanings" are decidedly interesting, and the volume or book, for such it may be called, is freely illustrated. We cannot do more than say that the articles in the present issue are as interesting as they are varied, and include "Figs in Pots," by Mr. James Hudson; "Egyptian Vegetation," by Mr. H. J. Veitch; "Mistakes in Orchards," by Mr. J. Ettle; "Mistakes in Fruit Culture," by Mr. George Bunyard; "Heating and Ventilating Hothouses," by Mr. A. D. Mackenzie; and many others. One or two of these articles we hope to publish as soon as possible.

Decorative Flower Studies.‡—A handsome volume of flower studies in vigorous outline, coloured after the manner of a faint flat wash that suggests but does not attempt to



8. YOUNG LEAVES OF PORTUGAL LAUREL.



3.



4. UNFOLDING LEAF OF LABURNUM.



5. HORSE CHESTNUT LEAF.

imitate the tints of the flowers and foliage represented. The coloured plate is on one page and opposite it is an outline drawing of portions of the same plant or flower, showing the structure of some of the parts. Between each pair of illustrated pages is one of letterpress, giving an intelligent and interesting description of the plant both from the artist's and the naturalist's point of view. No training in drawing is better than a careful and keenly observant representation of the forms of beautiful vegetation, and this book, put into the hands of a young student, would be extremely helpful in showing what had better be done or attempted. In a few cases the clever young artist and author has allowed himself to fall into the affectation of the dead masses of black, combined with outline, that has been already done to death. This is the only blot on a handsome, useful, and well done book that can be heartily commended.

Open-air Gardening.§—This is a very useful book, as one may suppose when the editor states that it is abridged from the "Book of Gardening." It is unnecessary to refer to it at any length for this reason, but its clear instructions about hardy flowers, fruits, and vegetables should ensure for it lasting popularity.

Greenhouse Construction.||—This is another useful book about the construction of a greenhouse, and should prove of value to amateurs.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

ROSES ON OWN ROOTS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Would the editor of THE GARDEN tell me if Teas and Hybrid Teas would do well on their own roots in a bed in a Rose house I have—that is, better than on Briar—and if so what description of soil should be used in the bed, which is about 20 feet by 3 feet 6 inches, with 20 inches of soil over efficient drainage?

JOS. PORTS.

[We should have no hesitation in advising you to plant Tea and H.T. Roses on their own roots in your Rose house, but we fear plants of the best forcing kinds are not procurable in this form. We have, however, seen splendid results obtainable under glass by planting grafted or budded plants on the seedling Briar in well-prepared borders, so that, taking into consideration the scarcity of own-root plants, we think you would achieve more success with this class of plant. Quite recently we inspected some large houses owned by a commercial grower wherein we saw hundreds of perfect plants, some of them as much as 5 feet in height and nearly as bushy. These were all on the Briar, planted out some six or eight years ago when only a few months old, and although this inspection did not lessen our preference for own-root plants, yet it was a proof that the Briar is a most serviceable stock for Tea and Hybrid Teas, especially for warm soils of good depth. Where we think so many fail with Tea Roses on the seedling Briar outdoors is when the soil is shallow or waterlogged. This stock makes a long tapering root, which resents much cutting; therefore it is necessary that it be provided with at least 18 inches to 24 inches of soil.

Why not plant part of the bed with own-root plants and the other part grafted, ordering strong "own roots?" As your border can take 20 inches of soil, in addition to good drainage, we should advise two parts good turfy loam, one part well-decayed manure, and about a peck of quarter-inch bones to a cartload of soil. A layer of fresh turf, grass downwards, should be placed upon the drainage prior to the above compost. Plant out the latter end of May or early in June. If you decide

* "The British Gardener." By W. Williamson. Price 10s. 6d. Messrs. Methuen, 36, Essex Street, Strand, W.C.
† "Journal of the Royal Horticultural Society." Vol. 25, Part III. April, 1901. Price to non-fellows 7s. 6d.
‡ "Decorative Flower Studies." By B. J. Foord. London: E. T. Batsford. 1901. Price 25s. nett.

§ "Open-air Gardening" (abridged from the "Book of Gardening"). Edited by W. D. Drury. Price 6s. Upcott Gill, 170, Strand, W.C.
|| "Greenhouse Construction." By B. C. Ravenscroft. From same office. Price 2s. 6d.

upon having some of the Roses on their own roots the soil for these should contain a liberal sprinkling of sharp sand, and if all own roots are planted a depth of 15 inches of soil would be ample.—Eds.]

STRAWBERRY VICOMTESSE HERICART DE THURY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I quite agree with "G. W." as to the excellence of this variety for very early forcing. At one time I forced a good many Strawberries in houses ill adapted for the purpose, the atmosphere being too moist and ventilation insufficient. Some varieties, notably Noble, I could not get to set at all, the blossoms always turning black. Vicomtesse, however, always set well, the fruit requiring much thinning. Royal Sovereign was the next best. As "G. W." says, the flavour of Vicomtesse is good, even when grown in a moist atmosphere, but it is greatly improved by placing the plants in a comparatively dry, airy house for a few days before picking the fruit. Some complain of the small sized fruits of this variety, but if the fruit is well thinned, and the plants liberally assisted with liquid manure, there will be no cause for complaint. I consider the old Keen's Seedling still one of the best Strawberries for forcing, but it requires a dry atmosphere to set it. Black Prince is probably the earliest variety, and is well worth growing in limited quantities for the earliest supplies.

J. C.

CLIMBERS AND FRUIT TREES AGAINST A WALL.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I shall be much obliged if you will kindly advise me as to how deep and how wide a border should be made for climbers and fruit trees against the walls of a house. At present against the south wall there is nothing but yellow sand for the climbers to grow in. Would it be possible to make the soil good enough to grow a Magnolia in? Any suggestions for fruit trees and climbers to grow against the west and south walls of the house I shall be most grateful for. The south wall is entirely sheltered from the east. Also any suggestions as to what to plant underneath windows that are 6 feet from the ground I shall be very pleased to have.—M. DYKES.

[You can easily make the soil good enough for a Magnolia, as this delights in a well-drained border. You say at present it is a yellow sand, which is most unsuitable. We would advise you to take out the sand, say, 18 inches to 2 feet in depth and width, and replace with good soil. This means a considerable amount of labour, but it is best to do the work thoroughly at first, as, though less soil would suffice at the start, as soon as the climbers grow to some size they would suffer when the roots got into the sand. Good soil from an old pasture is best, but really good garden soil, with a liberal addition of well-decayed manure or such aids as an old Marrow or Cucumber bed, burnt refuse, and decayed leaves would suit Magnolias. Underneath the windows you could grow most of the Ceanothuses, especially *C. azureus*, the scarlet *Cydonia japonica* (Japanese Quince), and the yellow *Forsythia viridissima*. *Garrya elliptica* would do well. We do not advise you to grow creepers and fruit trees together. Keep to one or the other, as the creepers do not do well mixed with fruit. On the other hand, on the aspect named—indeed, on both aspects—you could grow the Vine well, and by a little care in management get very good

Grapes. By "care" we mean pruning and thinning of wood, feeding, and not allowing, as is too often the case, the Vines to grow anyhow. A good white Grape is the Muscadine, and a good black is Esperione. Now is a good time to plant, after making the border as advised for creepers. For other fruit trees, such as stone fruits or Pears, you would need a border of good soil at least 3 feet wide and nearly as deep. Not knowing how much space you have, it is difficult to mention varieties. With Vines you get both fruit and the walls well covered from spring to autumn.—Eds.]

NURSERY GARDENS.

MESSRS. WEBB AND SONS, STOURBRIDGE.

ALL are familiar with the exhibits of choice vegetables and flowers that Messrs. Webb arrange at some of the more important shows throughout the kingdom. Visitors to the great annual exhibition at Shrewsbury particularly will bring to mind the fine display always there arranged by Messrs. Webb.

It need hardly be said that the present time is not the best at which to see Messrs. Webb's nursery grounds, although there is, of course, much to be seen at this time of the year that later in the season will be quite over. Such, for instance, are the Cinerarias, a house of which we are able to illustrate. The flowers comprise an astonishing range of colour and form, brought to a high standard of excellence by the careful hybridisation and selection that Messrs. Webb have for so long practised. It is unnecessary, and would be almost impossible, to attempt to describe the innumerable exquisite colours that are contained in a house of these indispensable spring flowers, but our illustration will give some idea at least of the variety of shades which exists. Did we particularise at all, it would be to mention the blues, a colour that it would be hard to find better represented in Cinerarias than in the collection of the Stourbridge firm. Calceolarias, of which Messrs. Webb have a splendid strain, fill several houses. The plants are not yet in full flower, but, if one

may judge from the present appearance of the plants, they will be quite equal to the exhibits made on previous occasions, and better evidence of their good quality could not be desired. All the florist's flowers at Stourbridge—Primulas, Cyclamens, Cinerarias, Calceolarias, &c.—are, of course, cultivated for seed, and not primarily for show purposes, and that they should be available for the latter shows how well is the treatment accorded them.

The Primulas and Cyclamens were not quite over at the time of our visit; there were still quite sufficient flowers open to enable one to judge of the varieties and strains that Messrs. Webb possess. Webb's Perfection Cyclamen is one that is thought highly of, not by Messrs. Webb alone, but by many who have grown it. The plants are of dwarf habit of growth, producing flowers of different colours in great abundance. Webb's Vesuvius and New Rose Queen are two other excellent Cyclamens, the last-mentioned being quite a new one. We will not dwell upon the many kinds of Primulas that are comprised in the Stourbridge collection, except just to mention two exceptionally fine ones, namely, Webb's Purity and Snow Queen, the former a giant Primula of vigorous habit, whose flowers are pure white with a clear sulphur eye, 2 inches or more in diameter, and elegantly fringed. Snow Queen is also a giant Primula, producing very large trusses of large white flowers, these being thrown well above the foliage.

The Gloxinias are splendid, and, although not yet so fine as they will be in a few weeks, yet make a very brave show. Many new and lovely shades have been introduced into the flowers of the Gloxinia within the last few years, with the result that a representative collection of these plants now comprises some of the most beautiful tints imaginable. Gloxinias are not so popular as are the cool house flowering plants, and, perhaps, they never will be, but they are at least deserving of more extended culture than they at present enjoy, and it is to be hoped that with such charming varieties now existing more will be induced to take up their culture than is at present the case. We will not describe in detail the colours of Messrs. Webb's Gloxinias, but would rather leave those who are interested to make the pleasurable experiment of growing them, and thus obtaining the knowledge for themselves.



HOUSE OF CINERARIAS IN MESSRS. WEBB AND SONS' NURSERY AT STOURBRIDGE.

The nursery grounds, glass houses, and seed warehouses at Wordsley, near Stourbridge, form but a minor portion of the extensive seed establishments of Messrs. Webb and Sons; the grounds where most of their farm and vegetable garden seeds are grown are at Kinner, some few miles distant from Wordsley, and here no less than 2,000 acres of land are under cultivation for the purpose of seed production. It is here that a series of experiments in the cross-hybridising, selecting, and fertilising of seed-bearing plants (so essential to the production of good seed) is annually carried out. A glance into the seed warehouses, despatch rooms, &c., at Wordsley serve to give one some idea of the enormous quantities of farm and garden seeds that are produced in and exported from the nurseries of Messrs. Webb and Sons.

GARDENING OF THE WEEK.

KITCHEN GARDEN.

CELERY sown early in the season and potted off will now require the lights removed during the day, so as to be hardened off and ready for planting out about the middle of May. The trenches in which the early section of this important crop is to be grown should be got ready as soon as possible, and where large heads are desired early for exhibition special preparation of the beds will be necessary. In this case trenches 18 inches deep and the same in width may be taken out, into the bottom of which should be placed 12 inches of good farmyard manure, afterwards filling the trenches to within 2 inches of the level with good soil and a sprinkling of some approved fertiliser. Into this soil the plants may be carefully placed at a distance of 1 foot from plant to plant. A slight warming of the soil will take place from the manure below, which will give the plants a good start, without which it is a difficult matter to make a good finish. But where large quantities of Celery are required a less elaborate mode of cultivation must be adopted. Here we grow 30,000 each season, and what is termed the main crop is grown in trenches 6 feet wide, the soil being dug out one spade deep and a good coating of manure given, which is well incorporated with the soil. A dozen plants are placed on each row across the beds, and the rows are 1 foot apart. In this way the largest quantity possible is taken from the ground, and in severe weather the crop is less likely to suffer from frost than if grown in the usual style.

ASPARAGUS.

Careful attention should be given to the cutting of Asparagus as soon as it is ready, and care taken not to injure the crown or young shoots with the knife. It is important that the shoots be removed from the bed whether required for immediate use or not. If tied in small bundles and placed in an upright position on wet sand it may be kept in good condition for a week. When the supply is likely to be greater than the demand, a bed or two may be allowed to run and be taken up for forcing early in the autumn when the foliage has ripened, and from which good results may be expected. Examine

SEED BEDS

and make up all failures by sowing immediately they are noticeable. There is plenty of time yet to produce plants for ground now occupied by early Potatoes, &c. Where Spring Greens are in demand there can be nothing better or harder than the Buda or Asparagus Kale. This, when cooked in bunches and served without breaking, is, in my opinion, one of the most delicious hardy Greens in cultivation, and, being perfectly hardy, should occupy a place in every garden. Reid's Hearting Kale is also a splendid hardy Green, standing long after the ordinary Curled Kale has run to seed. Veitch's new Sprouting Kale is also an excellent variety, producing large quantities of fine-flavoured sprouts, and standing to May without running to seed. Sow seeds of silver-skinned

Onions for pickling on poor ground so that the bulbs may not become too large for the purpose for which they are sown. J. DUNN.

Royal Kitchen Gardens, Windsor.

INDOOR GARDEN.

GARDENIAS.

SPRING-STUCK stock at present in 3-inch pots and required for flowering in 4½-inch pots should at once be transferred thereto. I am always of opinion that the finest flowers are to be had from quick, strong-grown, first year plants. One pinching having already been given, a second should now follow if the plants are sufficiently strong and forward to permit of this being profitably done. Loam and peat in equal parts will form the basis of the potting material, while sand and charcoal should be added in sufficient quantity to keep the whole in a thoroughly porous condition. A dash of dissolved bones and Clay's fertiliser should also be well mixed into the compost before it is used. Keep the foliage quite clean by frequent spongings, and a sparing use of the water-pot is recommended. The syringe must, however, play a prominent part in the general cultivation. Old plants, where it is decided to grow them still another season, must be treated according to their respective needs. Stock of only one year or little more might be potted on with advantage, while if beyond this age it will be wise to top-dress only, as the roots become less active, and, consequently, less able to absorb the provided nourishment. Ixoras should be treated in a similar way.

EUCHARIS AMAZONICA.

Plants now making growth should be liberally fed. I have always found farmyard manure answer this purpose best, and when given in moderation, with a dash of soot added, leaf growth is much improved. These also are inclined to harbour vermin, especially mealy bug. If this is within reach, cleaning by sponging is recommended, care being taken that none of the insecticide, if this be used, sets into the soil.

STEPHANOTIS FLORIBUNDA.

Keep this well thinned out as growth is made. Nothing is gained by overcrowding, and, as growth at this season is vigorous, daily attention should be given so that the growths do not get entangled one with another, or the consequence is that one or other is sure to get damaged. This, too, is a troublesome plant to keep perfectly clean, and nothing but persistent sponging is likely to keep it free from aphids.

HERBACEOUS CALCEOLARIAS.

Though by no means a profitable plant to cultivate where cut flowers is the object, these make charming subjects for the conservatory. As the flowering season is now approaching abundant shade must be afforded and a position on a north aspect. The foliage, too, should be frequently moistened and weak farmyard liquid given, say, once a week. J. F. McLEOD.

Dover House Gardens, Roehampton.

THE FLOWER GARDEN.

REMOVING SPRING-FLOWERING PLANTS TO SUMMER QUARTERS.

WHERE spring bedding plants have to be cleared to make room for summer-flowering things, the work of lifting and removing the plants to the reserve garden must now be taken in hand, and at the same time propagation should be carried out. Aubrietias can be split up into small pieces, planted in nursery rows, and if well looked after will make excellent plants for refilling the beds in whatever position they are wanted for by autumn. The Yellow Alyssum (*A. saxatile*), which is regarded as a somewhat "miffy" plant in some gardens, and which certainly has a tendency to die out if allowed to become old, may be readily renewed by slips taken off and dibbled into sandy soil. The white Arabis ought also to be kept up by propagating young stock yearly for all purposes in which neatness of growth is necessary. When clothing a wall or a rock garden the plants may be

allowed to get old; they increase in effectiveness each year, but for bedding this method of treatment is not successful.

DOUBLE PRIMROSES

must be increased by division, and the divided pieces should be planted out in a very moist piece of ground, choosing also a shaded site not overhanging with trees. A north wall border is an excellent position for them. For the single-flowered types of "bunch" Primroses, which have such an excellent effect and flower so freely, no method of division will equal the stock raised annually from seeds, and as these seeds may be bought now almost, if not quite, true to type and colour this should be the means employed to raise stock. Seeds of these and of any of the foregoing plants, except double Primroses, should be sown some time this month, so that they may become strong by the time they are wanted for planting out.

PROPAGATING VIOLETS.

Violets should be propagated either from cuttings or from young rooted shoots. It is immaterial which are used provided none of the old stems are not. As Violets are subject to red spider in some gardens they ought to be given a rather damp position and rich soil. They should also be freely syringed. A garden frame or set of hand lights will be useful in which to propagate the cuttings, but neither is essential, and practically the same results may be had by the help of a few mats as a covering while the cuttings are getting callused. The best Violet I know for flower garden work is Lady Hume Campbell.

TULIPS AFTER FLOWERING.

These are often regarded as worthless if cleared off in time to make room for summer bedding plants, but all they need to make them serve again is careful lifting and ripening. For a limited number of bulbs it will be found best to carry some empty boxes about 5 inches deep to the beds, and into these pack the bulbs, with as much soil as can be lifted in the way of a ball, filling up with soil between the bulbs and watering them in. Put them somewhere in the open and water occasionally so that the leaves may ripen off naturally. For large quantities careful removal to nursery lines in the reserve garden will suffice. I find that bulbs so treated ripen up strongly and well, flowering the next year. A year's rest, however, makes them equal to imported bulbs.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

THE FRUIT GARDEN.

EARLY PEACHES.

THE advice given for Peaches also applies to Nectarines. Pot tree fruits will need liberal supplies of food in the way of liquid manures or other quick acting fertilisers. The trees at this stage should never be allowed to become dry at the roots, as any deficiency in moisture will affect the size of fruits and flavour. More heat can be given if the fruits are required as early as possible, 80° to 90° during the warmest portion of the day by sun heat not being too much if abundant atmospheric moisture be maintained. Any late or weak growths shading the fruits should be cut away, and fine fruits needing support should receive a few ties or small pieces of Bamboo canes as a support. Syringing overhead must cease as soon as the first fruits commence to soften, but maintain a genial moist atmosphere to keep the trees healthy, therefore damp down walls and bare places frequently. Early trees that are trained on a trellis will need similar treatment as for those in pots, except that the roots will not dry so quickly, but with shallow borders and trees carrying a full crop feeding must not be overlooked. It is well to give trees a mulch of well decayed manure before the final swelling; failing this liberal supplies of liquid food. No time should be lost in exposing the fruits to full sun, as if shaded by leaves colour is absent. Some of the best fruits are often badly placed, and if the removal of leaves is not sufficient to expose them to the light, it is advisable to place small pieces of wood across

the trellis to bring the fruits into position. The night temperature for trees started early in December may now be 65°, and 10° to 15° higher by day, closing the house early in the afternoon, and thoroughly damping overhead, as at a later stage moisture cannot be applied. It is important to keep the trees free from insect pests. It may be necessary even now to remove weak growths also to pinch late lateral ones, as crowded wood lessens the size of fruit and harbours insect pests.

Later trees have this season made wonderful progress, so that the fruits are much more advanced than usual. It is well to maintain low night temperatures even now, as we frequently get a spell of cold weather even in May, and during the stoning process excess of fire heat will frequently cause the fruits to drop. In the case of some kinds, such as Early Alexander and Amsden June, it is not desirable to remove so much of the new wood as with other kinds, as often the flowers on the strong growths drop wholesale when the buds are swelling. If a liberal percentage of twiggy wood be allowed the latter will give a crop. Allow no more growths on trustworthy kinds, such as Royal George, than are necessary for next year's fruit or for extension of the trees, and in the case of young trees a liberal view should be taken. It is much better to allow free growth than to prune too hard, as this promotes canker. With Peaches that are at all gross more attention is needed, either to stop close back or remove them, as by so doing the sap can be absorbed by the weaker shoots, and distributed more evenly over the trees. Pinch laterals at the first joint, and do not crowd next year's wood. Far better remove even at this early date any older wood not bearing fruit to make room for the new wood. G. WYTHES.

Syon House Gardens, Brentford.

MISCELLANEOUS.

TUB GARDENING.

MANY readers of THE GARDEN are now familiar with the American method of cultivating Strawberries in empty petroleum barrels, but few, I fancy, have seen the idea carried further by utilising barrels for the growing of flowering plants. Such is, however, the case, and well they look if proper subjects are chosen so as to completely hide the barrels. The barrels are prepared in the same way as for Strawberries, that is to say, the sides are perforated with holes 3 inches in diameter, which are cut out with a key-hole saw at irregular intervals from top to bottom. From four to five good-sized holes should also be bored in the bottom to allow water to drain freely away. From 3 inches to 4 inches of drainage is required in the bottom of the barrels, and over this put a little short straw or pieces of loam to prevent the soil from choking the drainage. Before the soil is placed in the barrels select the proper plants, as the planting and filling must proceed together. This done, the first lot of plants should be placed in the lower holes, and then block the apertures with pieces of turf to prevent the soil from filtering out through them, and fill up until the next tier of holes are reached, when proceed as before. As the filling in proceeds, place a 4-inch drain-pipe in the centre which will considerably lessen the quantity of compost required, and is also useful for pouring in water for the benefit of the roots of the plants placed near the bottom of the barrels.

Two such pipes should be sufficient, as they are not required to show above the tops of the barrels. Any ordinary potting compost answers the purpose, and as the planting and filling in progresses it should be made quite firm, otherwise there will be a shrinkage which would be disastrous to the plants, as they would become either strangled or else the stems would be in much danger of being broken. For the sake of variety a few of the barrels might be sawn in half, as these come in handy for arranging in front of and between the taller ones. Unless so desired these should not

have more than two tiers of holes cut in their sides, as a row of trailing plants which will hang down and hide the greater portion of the bare wood can be planted close to the edge of the tubs.

With regard to suitable plants those of a trailing habit of growth should in all cases be used for planting the sides of the barrels. Of these the Ivy-leaved Pelargoniums stand first, as they are always so effective; then there are Petunias, Tropæolums of climbing habit, such as *T. hederæfolium* and *T. canariense*, *Campanula isophylla*, and the white variety, *Verbenas*, *Lobelia speciosa*, *Heliotropes*, *Abutilon vitifolium*, &c. The tops may either be filled with the same class of plant or with others of taller growth, just as may seem desirable. The shorter tubs look well filled with *Hydrangeas*, *Agapanthus*, *Fuchsias*, yellow and white *Marguerites*, zonal *Pelargoniums*, *Liliums*, &c., with trailing plants in the holes in the sides to harmonise. By exercising a certain amount of judgment in the matter some pretty combinations of colour effects can be produced in this way. These tubs should be placed for the summer in positions where they will not be too obtrusive. The most effective arrangement that has ever come under my notice was in the case of about a dozen of such tubs disposed widely apart in a rather secluded nook, having a belt of trees and shrubs as a background. The tubs were stood on the green turf, and when the various plants had grown and covered the barrels the effect produced was extremely pretty. A. WARD.

FOREIGN NOTES.

USES OF THE FRUIT OF THE GINKGO.

AS one knows, the fruit of the Ginkgo is of the size, shape, and consistency of a small Plum. The fleshy portion, at first a bright green, turns yellow when ripe. Each flower stalk bears ordinarily but a single fruit. Sometimes, however, two perfect fruits are found. The pulp is rich in an oily substance, which at an ordinary temperature is of a butter-like consistency. The quantity of sugar contained in this oil is very small, and the fermentation, supposing it to be easy to ascertain, would certainly yield only a slight proportion of alcohol, the value of which, supposing that it could be utilised, would not cover the cost of production.

It is then rather to the oily matter that one's attention should be turned in endeavouring to put the fruit to some practical use. This could probably be obtained by any process applicable to the olive. It must be noted, however, that this oil, in three or four days at most, on exposure to the air, quickly develops a rancid odour, which would certainly be found very disagreeable.

According to certain authors it appears well established that the Chinese willingly eat this pulp, but probably this would not be to our taste. Not that there is anything very astonishing in that, as it would be easy to name numerous other foods upon which we have not the same ideas as the people of the Far East. It is possible, however, that in spite of the above-mentioned rancid odour, the oil of the Ginkgo, in default of being used as a food, could be utilised for certain industrial preparations, such as soap, &c.

But if it does not appear to us that the pulp of the Ginkgo has any chance of figuring in the ordinary fare, it may be otherwise with the seed. This possesses a flavour somewhat like the Walnut or Hazel-nut. The oil it contains, which must be of different composition, does not become rancid like that of the pulp, and it is quite probable that this seed might be acceptable as an article of food. In common with the greater part of the Conifers, it contains besides the oil a certain quantity of starch, which would complete its dietetic value.

While we are speaking of the Ginkgo, I may be permitted to regret that this beautiful Chinese tree is used only for ornamental purposes. It flourishes in deep mellow land, where there is no

undue proportion of clay or flint, and shows a hardness practically absolute, due in part to the decay of its leaves, which renders it almost indifferent to the rigours of winter. Moreover, the propagation is very simple, both by sowing immediately after the fruit is gathered and by cuttings struck even in the open air at the end of the season. Let us add that the wood of the Ginkgo appears to be strong, with a fine and close grain.

All these qualities lead us to suppose that there would be some advantage in trying the species in forest cultivation, when, according to all appearance, it should give a good account of itself.—*The above notes about the fruit of the Ginkgo are taken from an article by E. Musset in the "Revue Horticole."*

OBITUARY.

ROBERT G. SWAYNE.

APRIL 22, 1901.

IN the lovely cloister of the cathedral—surely the most hallowed and peaceful spot that could be chosen for a last sleeping place—there was recently laid to rest all that was mortal of one who a few years ago was Chancellor Residentiary of the Diocese, but who has long been known to many a garden friend as Canon Swayne of Salisbury. For though it is some years since, through the increasing infirmities of age and declining health, he resigned his office and removed his residence, yet his memory will always be associated with the cathedral he loved so well, and the beautiful garden which he created under its shadow, rather than with the home at Branksome, where he spent the last years of his life.

It is a sorrowful task to take pen in hand to recall some of the past incidents of garden intercourse which alone are suitable to these pages. Others, doubtless, will be found who will testify elsewhere to the saintly character of his clerical life, but it comes within the scope of a journal devoted to the most refined and uplifting aspects of horticulture to bear witness to the sweet and beneficent influence of a far-famed garden, the ordering of which filled the leisure time of an important clerical position with consolation and peaceful recreation, and was used so lavishly to bring health and refreshment into the lives of others. Few, perhaps, have memories more closely interwoven with both the old garden and the new than the present writer. It is many years since an acquaintance which, later on, ripened into close friendship, began through the sympathy and kindness shown to comparative strangers by the Canon and his dearly-loved wife, who sleeps in the tranquil spot where now he rests beside her. It was then that the beautiful garden in the Close, in all its glory of midsummer flowers, was placed at the disposal of a sick boy and his parents for quiet restoration and retirement after a season of great anxiety and trial. Many there are who will remember that garden as it was in those days, with its smooth lawn and broad grass walk, bordered on either side by its marvellous, many-coloured embroidery of choicest perennials, its rockeries set with the rarest and fairest of alpine plants, the grey venerable house with its garlands of well-chosen greenery, and the soft murmur of the clear, swift-flowing river, home of silver trout and greyling. Above it all, the lovely tapering spire of the cathedral pointing to heaven, as if to say "Fair as it is, look upwards, for eye hath not seen nor heart conceived what is prepared above, in the Paradise of God." Who could fail to recognise the healing power of such exquisite surroundings upon minds and bodies wearied with grief and sickness? And the picture was made complete by the tall, stately figure in clerical cassock, who had ever a kindly greeting for the friend who availed himself of the permission to enjoy it, and a word of courteous welcome to the strangers whom the fame of the "Chancellor's

Garden" had drawn to the spot. It is not strange that poet should have sung and artist portrayed the home of so much charm, consecrated as it was by more than earthly beauty. One is glad to think that the delightful picture by Alfred Parsons will remain as a heirloom in the palace to perpetuate the memory of the garden and its one-time owner. A few years further on serious and tedious illness brought the writer once more within range of that same garden influence. Every day or two a basket reached the sick room, containing the choicest and earliest flowers of the varied treasures of those well-filled borders, for by that time a friendly rivalry in garden lore had been established, and it was good indeed to see the rare smile flit across the Canon's grave face, saddened for life by an overwhelming sorrow, when some mistake of nomenclature or ignorance of species weighed down, as it did only too often, the balance in his favour. Ah me! how many weary hours were thus beguiled, and how many others could tell a like tale of the gracious and soothing help derived from kindnesses such as these! To give it all up, when life was nearing its end, and to remove to a new home, hallowed by no tender memories, must have been bitter indeed. That new home, when it was first chosen, was embowered in the Fir trees, whose balsamic fragrance has contributed, perhaps, as much as the warm sea air to make the neighbourhood a refuge for the sick and sorry. It seemed at that time to be quite outside the prowings of the "demon builder." Alas! for fallacious hopes. It was a cruel disappointment after a new garden had been not only planned but had begun in a wonderful way to flourish, when the sound of an axe and a mason's trowel foretold the doom of the trees and uprearing of overlooking houses. But nothing could destroy the beauty of the flowers by which, with characteristic enthusiasm, the Canon had again surrounded himself and taken under his fostering care. Having seen the beginnings of the new garden when it was scarcely more than pegged out, and that, as it seemed, not so very long before, it was little less than a miracle entering that gate one day last September to see how the desert had blossomed as the Rose. A pleasure, too, though a very sad one, to note how the gentle stroll, which was then still possible, round the borders, and the interchange of thought on garden subjects could still bring relief from suffering for the passing moment and interest as keen as in happier days of health and vigour which were gone.

And so we turn from the grave of a saint of God with the sure belief that the garden, ordained of old to be tilled and dwelt in, has been God-given to be the delight and solace of all pure hearts from youth to latest years—a recreation for clerical homes against which no breath of adverse criticism may be raised, if only it may be made to minister not only to our own selfish enjoyment but to the brightening in untold ways of rich and poor and sorrowful alike who may come within our ken. And beyond this mortal life who shall say? To quote the words written but a short time since by the hand now stilled for ever: "We know so little of the world that is to be that all speculations on the subject are idle; but in whatever better things God has provided for us one can hardly believe that gardens and flowers will have no place."

K. L. D.

MR. JOHN THOMSON.

THE late Mr. John Thomson was the second and youngest son of the founder of the well-known firm of Messrs. William Thomson and Sons, Clovenford Vineyard, Galashiels. He had been associated with his father and elder brother in the management of the business from its commencement thirty years ago, and latterly the whole care of the concern had devolved upon him. Never robust, a distressing internal complaint caused him intense pain and suffering during the later portion of his life, and for some months previous to his death no hope of recovery had been entertained. Mr. Thomson was forty-nine years of age at the time of his death, which occurred at his

residence on April 27, the funeral to Caddonfoot on the 30th having been numerously attended by mourning friends from all parts of the country, to whom his gentle, though retiring, disposition had endeared him.

The history of the firm of which Mr. Thomson was the last representative is a remarkable one. As late as forty years ago the site of the vineyards was hardly known, except, perhaps, to some enthusiastic followers of Sir Walter Scott and the Ettrick shepherd, the latter of whom mentions the Caddon - Burn and surrounding places in the immediate locality of Clovenfords in one of his legendary ballads. William Thomson transformed it into a name known wherever horticulture is cherished. Grape growing for market formed the earliest undertaking of the firm, but the culture of Orchids soon followed, and in connection with these a shop was opened in Edinburgh for the disposal of cut flowers, this department being under the control of the subject of this sketch, who had a great love for flowers, and we believe a strain of *Polyanthus* of his introduction has attained some popularity. The great hit of the firm, however, was undoubtedly the introduction of Thomson's Vine and Plant Manure, which not only affected the fortunes of the firm most favourably, but was the means of revolutionising old methods of gardening, and placing the use of artificial manures on a sound and popular basis. George Ville, the French agricultural chemist, whose work on manures was translated by Crookes some thirty years ago, is said in his book to have furnished the head of the firm with data to work out and perfect this well-known horticultural manure.

Latterly the productions of the firm have been confined to manures, Grapes for market, and a few Tomatoes. Mr. John Thomson left an only daughter, two nephews, sons of his late brother William, being now the sole representatives of the family in the male line.

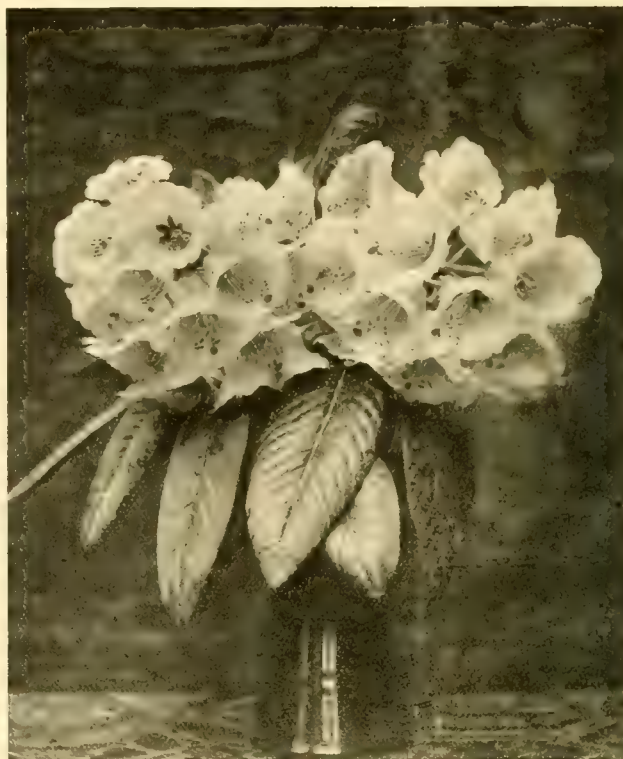
MR. M. DAVIS.

ANOTHER gardener has been called to his rest, and everyone who had met this great-hearted Irishman will feel a sense of keen regret. Mr. Davis passed away suddenly on Friday last at Manresa House, of whose gardens he has had charge for more than forty years. The Black Hamburgh Vine which has come to be regarded as one of the mammoths of the Vine world was raised by Mr. Davis from a cutting, and he has grown it with jealous care throughout his life. The deceased was a man who gained and deserved the respect of his fellows, and his loss will be deeply mourned.

RHODODENDRON GRANDE R. ARGENTEUM.

THIS magnificent species, some blooms of which were lately exhibited at the Drill Hall, was introduced nearly sixty years ago by Sir Joseph Hooker from Sikkim, where it grows at an altitude of from 9,000 feet to 10,000 feet.

Mr. Mangles, of Valewood, Haslemere, gave me, amongst several other species, a small plant of *R. grande* some ten or twelve years ago, which has now grown into a tree of about 14 feet high. It flowers annually, and was this season loaded with trusses of creamy white bloom, with patches of deep purple at the base of each cup. The trusses represented



RHODODENDRON GRANDE SYN. ARGENTEUM.
(Trusses 10 inches to 12 inches in diameter.)

in the photograph were from 10 inches to 12 inches, and the individual flowers about $2\frac{1}{2}$ inches in diameter. The honey, which is secreted in quantity, falls in large drops on the broad leaves, which are of a beautiful silver-grey beneath.

This plant, together with *R. Aucklandi*, *R. dalhousianum*, and other species from the same country, is growing in a tub in a compost of leaf-mould, in a cool house with a northern aspect, and only sufficiently heated in winter to keep out frost. During the summer these *Rhododendrons* are taken into the open air and placed in a shady and sheltered spot, as they are extremely sensitive to both wind and hot sun. *R. grande*, though not quite hardy in Sussex, thrives out of doors in the south-west of England and Wales.

North Sussex.

F. D. G.

RIVIERA NOTES.

How much there is to see and to take note of just now! Vegetation rushes on so rapidly one can hardly keep pace with it. I must first mention the surprising beauty of the double white *Arabis*, named in France *Corbeille d'Argent*, which has this spring draped even the most hideous *Shamrocks* with a mantle of beauty. Was there ever a more surprising development than this? The old single form has flowers so small and so fleeting, while the double is so giant and so long lasting, that without any exaggeration it is like a double white *Stock* in miniature. Some day I hope we shall hear how it was obtained.

The single hybrid rose-coloured *Rosa sinica* named *Anemone* is another gain that is of unusual importance. I saw a tree, planted two years ago, at Cannes the other day that had climbed up a tall lamp-post to a height of 8 feet, and was a marvel of beauty. The lovely cupped, clear rose petals, the glossy evergreen foliage, are both considerably larger and more vigorous than in the well-known *Rose Camellia* so universal on these shores. It has a peculiar look of distinction in habit and effect that catches the eye at once, so I feel sure it will

soon be found in every good garden. I am told it thrives well also in England, which is another attraction.

Fortune's Yellow Rose is most lovely just now. I have long debated in my mind what was the best companion for it, and I now think that that brilliant climbing Rose, Dr. Rouges, is the ideal foil, as the foliage of this climber is rich claret-red even now, and so abundant in leaf as to hide any possible thinness in the other's foliage. The blooms come a little later, which is a great merit, for it prolongs the harvest of beauty, and carries on the idea of Fortune's Yellow, though much deeper in its red tones.

Clematis indivisa is, curiously, little known or grown on this coast, but it thrives in a wonderful way. There is evidently more than one variety of it, and the largest is by far the best. The lobate-leaved form is decidedly inferior as far as I know it.

Cannes has suffered less this winter from frosts than most other places on this coast. One year the cold overleaps the protecting mountains from the Marseilles side, and then the western watering places suffer. Another year it comes from the Italian side, as it did this year, and in consequence the towns on the Italian side suffer most, but I think it is unusual to see so much damage done in what one considered the most sheltered parts, such as San Remo and Bordighera, while Cannes has escaped with no extraordinary severity of frost, though of course the winter has been cold everywhere.

Tulipa Greigi is a child of the sun, evidently. How glorious and how very lasting it is! The second year it is finer than the first, but I am not so sure that T. kaufmanniana and saxatilis are going to make themselves at home. Parrot Tulips hold up their heads gaily, and open their weirdly tattered petals wide in a way that is flaunting to a degree, but with a good thicket of Iris leaves and I. susiana blooms the effect is worth recording.

There is a theory in England that Tree Pæonies do not like manure. Here, at any rate, they require it. The other day a friend brought me wondrous blooms, bigger in circumference than the brim of my big wideawake hat, and of course so vivid and bewitching as to make the most unobservant smile. I went forthwith to interview the gardener, who says they must be well manured in August and in March. It is the winter manuring that is so injurious. Let the wise man note it!

E. H. W.

RECENT PLANT PORTRAITS.

In the May number of the *Botanical Magazine* are portraits of the following five flowering plants:—

Wyethia mollis, a native of California; a fine double plate of a very handsome golden-yellow composite, only found in Western North America, and nearly allied to *Helianthus*. There are about a dozen species. The flower here figured came from Canon Ellacombe's interesting garden at Bitton, where so many uncommon plants are to be found.

Pyrus alnifolia, the Alder-leaved Pear, a native of Japan and China. A hardy free-blooming small tree, introduced into cultivation by Herr Späth, of Berlin. It has bunches of white Hawthorn-like flowers.

Mesembryanthemum calamiforme.—Native of South Africa, an extremely pretty species of this large family, with large pink-white flowers, and an orange disc. It was sent to Kew in 1898 from the Cape Town Botanic Gardens, and is found in the Karroo district.

Lonicera pyrenaica.—A native of the Pyrenees. This is a very old garden plant, having been in cultivation since 1793. It has small tubular whitish flowers, mostly produced in pairs.

Manettia bicolor.—A native of Brazil. This beautiful and well-known stove

climber was introduced about sixty years ago by Messrs. Veitch, who received seeds of it from their collector, Mr. Lobb. It has numerous small tubular flowers of a bright orange-scarlet with a golden tip. It is a most valuable ornamental plant, as it is hardly ever without flowers during the entire year.

The May number of the *Revue de l'Horticulture Belge*, contains a double plate of the finest pure white form of that handsome Aroid *Anthurium andreanum*, which was raised by M. Edgard Wartel, director of the Horticultural Society of Ghent, who has named it after that much esteemed and recently deceased Belgian horticulturist, Edouard Pynaert. It is an extremely handsome flower of the largest size, and both the spathe and spadix are of a pure creamy-white without any shading or marking whatever.

The first part of the *Paris Revue Horticole* for May contains a very pretty group of six varieties of the hybrid *Anagallis grandiflora*, raised by the well-known firm of French nurserymen, Messrs. C. Huber, of Hyères. The colours of these flowers are a good deep blue, a purple-lilac, orange, pink, lilac and white, and deep orange-scarlet. There are also many other shades of colour not figured. They succeed best when sown in the open ground in March or April, as they transplant with difficulty. They like full exposure to the sun, and are most continuous bloomers.

W. E. GUMBLETON.

National Sweet Pea Society.—The schedule of the exhibition of this newly-formed society is now ready, and will be forwarded to all subscribers and applicants during the next few days. Anyone wishing for a copy should write to Mr. Horace J. Wright, 32, Doult Road, Wandsworth.

The Royal Gardeners' Orphan Fund Annual Dinner.—A large company celebrated the annual dinner of this institution on Tuesday evening last, at the Hotel Cecil, when the chair was taken by the Honourable W. F. D. Smith, M.P. We shall refer more in detail to the proceedings next week, but mention now that £590 was the amount of the subscriptions, £50 being given by the chairman. The toast of the evening, "The Royal Gardeners' Orphan Fund," proposed in happy words by the chairman, was responded to by the treasurer, Mr. N. N. Sherwood. Mr. T. W. Sanders made an excellent speech in response to the toast of "Gardeners and Gardening," and Mr. H. B. May (chairman of the committee) proposed "The Chairman of the Evening."

Mr. W. Poupart proposed "The Press," and Mr. Sherwood, "The Secretary, Mr. B. Wynne," which toast was well received.

The Gardeners' Royal Benevolent Institution.—At the sixty-second festival dinner of the Gardeners' Royal Benevolent Institution, to be held on Wednesday, the 22nd inst., at the Hotel Métropole, the chairman (Lord Llangattock) will be supported by, amongst others, the Earl Egerton of Tatton, Dean of Rochester, and Charles E. Keyser, Esq., M.A. The secretary, G. J. Ingram, 175, Victoria Street, S.W., will be glad of early intimation from those who desire to be present.

The Yulan tree.—We have illustrated the Yulan tree (*Magnolia conspicua*) on more than one occasion, but thought a representation of the beautiful specimen at Gunnersbury House, Acton, would interest our readers. This is a mass of white blossom every spring.

Arrangements of Royal Botanic Society.—We have received the programme of fixtures for the present year. There will be an exhibition of Messrs. J. Waterer, of Bagshot, daily during June, also of hardy flowers by Messrs. Barr and Son. An exhibition of Chrysanthemums in early November, lectures on botanical and kindred subjects during May and June, and general meetings for the election of new Fellows, scientific papers, discussions, &c., on Saturdays, June 1 and July 6, and on Wednesdays, May 15, June 19, and July 14, at 3.45. There are also other fixtures, fêtes, and so forth.

The Temple Flower Show (Royal Horticultural).—For the fourteenth year in succession the Royal Horticultural Society will hold their great annual flower show in the Inner Temple Gardens (by the kind permission of the Treasurer and Benchers) on May 22, 23, and 24. Every year the desire of growers to exhibit increases, and the officials of the society have a very anxious task in endeavouring to do justice to those growers who regularly support the fortnightly shows of the society held at the Drill Hall, Buckingham Gate, and yet at the same time to encourage others also to come forward. The space is absolutely limited by order of the Temple authorities; no more or larger tents may be erected, hence every new exhibitor whose entry is accepted means curtailment of the space allotted to previous supporters. A catalogue of the show is given gratis to every visitor, and will contain a notice of new and rare plants entered on or before May 14;



THE YULAN TREE (*MAGNOLIA CONSPICUA*) AT GUNNERSBURY HOUSE.

it will also contain a programme of the music to be performed each day by the band of H.M. Royal Horse Guards (Blues). The judges will meet at the secretary's tent at 10.30 a.m. on May 22, at which hour punctually the tents will be cleared of all exhibitors and their assistants. The fruit, floral, and Orchid committees will assemble at the secretary's tent at 11 a.m. sharp, and the show will be opened at 12.30. All plants for certificate must be entered on or before Friday, May 17, addressed to the Secretary, Royal Horticultural Society, 117, Victoria Street, Westminster, S.W.

Apple Brownlee's Russet.—This valuable late dessert Apple presents another illustration of a fact too much overlooked—that in spite of the number of new Apples freely introduced, yet there lies hidden rather in age and neglect many varieties that are far superior to the new ones. Brownlee's Russet, presented to the fruit committee at its last meeting by Messrs. J. Cheal and Sons, of Crawley, with several others good in their season, but then passed, was found to be of first-rate excellence for so late a period, the flesh being firm, juicy, sweet, and nice flavoured. The fruits were round, handsome, and densely russety. We have no late Apple put into commerce during the past twenty years that is one-half so good in April as this old Apple, sent out fifty-three years ago.

Alyssum saxatile fl.-pl.—It is hardly possible to improve upon the brilliant single Alyssum saxatile, or "Gold Dust," which is so fine in the border or on the rockery in April and May. In some respects one cannot say that the new double form is an improvement upon the type, but the longer time it lasts without casting its petals is an advantage not to be despised in many places where a long effect is desired. It is very pleasing with its corymbs of golden flowers, which, by the way, look wonderfully dark after dusk when contrasted with the white of the Arabis or the Candytuft. Although this double Alyssum cannot be raised from seed like the single-flowered form, it is readily raised from cuttings, either taken off with a heel, as in the good old-fashioned way, or cut off square and put under a hand-light, and a large stock can soon be raised when a number of plants are required. Alyssum saxatile fl.-pl. is a good plant, and its recognition by the Royal Horticultural Society as worthy of an award of merit was well deserved when it was shown in 1898. Although it is more plentiful now than then, it is not yet often enough seen.—S. ARNOTT.

A JAMAICA GARDEN.

(Continued from page 315.)

THUNBERGIAS.

Its associate *Thunbergia Harrisii* is a grand thing. It has not the lovable quality of *Coralilla*, which we want to handle, and hold, and smell, and keep always with us. But as a spectacular climber it has few equals, and its rare colour, a blue-grey, akin to *Plumbago capensis*, makes it peculiarly acceptable. Its large flowers hang in long racemes, and it adapts itself equally to tree or fence. Beware, however, of putting it on the house, the tuberous roots will swell and demolish your walls. This is no imaginary danger but a very real one, as people who have neglected advice on the subject have found to their cost.

Thunbergia Harrisii has a white counterpart in *T. grandiflora*, which has taken possession of a Mahoe (*Hibiscus elatus*) by the great tank, thereby greatly improving the appearance of that coarse-looking tree. *T. mysorensis*, known also as *Hexacentris*, is always a markedly racemed species, giving an impression of brown and yellow moths clustering on a sugared string, very pretty at its best, but, like so many strong climbers, inclined to get dirty and matted. To cut it down is the best remedy, choosing showery weather, and a clean growth follows, which rapidly covers the trellis or other support, and blossoms abundantly. The best plants I have seen grow at elevations from 2,000 feet to 3,000 feet, while *T. Harrisii* and *T. grandiflora* prefer to be under 2,000 feet. It is a pleasure to see Black-eyed Susan (*T. alata*) growing wild on banks and in waste places by the

path side. It climbs and runs and tumbles, and braves the hottest sun. The type is orange-buff with eye of darkest violet, and we have it without eye too. The seed is not easy to find, so I got a packet from an English nursery which gave me other varieties, primrose with and without eye, and white. Perhaps my favourite of all the tribe is *T. fragrans* var. *vestita*, another of our wild plants. At least it counts as such now, though both it and *T. alata* were originally foreigners. This is a plant I never saw till I came here. It grows in the plains and up to a moderate elevation, and may be described as a climbing white Periwinkle about the size of *Vinca* major. It reproduces itself freely from seed, and is allowed much license in the garden. It adorns all it touches. I have it mixing with a bush of St. John's-wort, even threatening to overwhelm it. It climbs up into and makes interesting a Dragon's-head, the red *Dracena*, a plant I am not very fond of, but so clothed it is charming. This *Dracena* is used here as a "marking bush" to delimit different sections of Coffee or show a boundary line. *T. fragrans* var. *vestita* is not sweet, as its name seems to imply. Has anybody had the good fortune to meet with the type, which, if it is as beautiful and fragrant to boot, must be a prince among flowers? The violet-red *T. Kirkii* is admired by people who like *Bougainvillea*.

BOUGAINVILLEA.

The mass of colour presented by this strong grower is a source of pleasure to many. It is, indeed, a wonderful sight; but to me personally an unpleasant one. *Meyenia* was difficult, so was *Impatiens Sultani*, but *Bougainvillea* I find impossible in all places. I have, however, and greatly value, the brick-red variety, which presents an imposing appearance at the top of the garden in company with Cow Bamboo (*Bambusa vulgaris*). This group is about on a level with the wild Cane and the great tank, and these are the three principal features of the upper garden. The last deserves more detailed notice.

THE GREAT TANK.

Its measurement has been already roughly given in paces. More accurately it is 51 feet long, 34 feet wide (laid down probably at 50 feet by 33 feet), and nearly 6 feet deep. Standing in the middle of its eastern, short side, and turning my back on the view, I look along its length to the Mahoe, which occupies its western side. The fury of the 1880 hurricane gave this tree a summary pollarding, and from the torn and down-twisted stem rose several small growths. As has been mentioned, this is a coarse tree, redeemed from ugliness by large orange flowers, which at this distance appear to be almost counterparts of the Day Lilies (*Hemerocallis fulva*) at its foot. The white *Thunbergia grandiflora* twines in and out of the branches, and its long racemes show to advantage dropping towards the water and doubled by reflection therein.

The right-hand far corner of the tank is overshadowed by a fallen but still vigorous Sweet-sop, another victim of the hurricane, and reaching up to it and in places over-topping it are lusty shoots of *Sanchezia nobilis*. This is a plant about which it takes time to make up one's mind. On first seeing the comment, in that telegraphic arrangement of words in which we think, was: "Grand! must certainly have it." Then came "Rather coarse, don't think I want it," followed by a reactionary "Yes, very fine! can't do without it." The fact is, it looks very different according to its growth and placing. A badly-grown specimen is an ungainly eyesore. A handsome one vies with *Maranta zebrina* in beauty, perhaps surpasses it. To call its two-hued leaf of green and yellow variegated gives an inadequate idea. Pied is a shade better. Veined is perhaps best, with a thick veining of yellow on the face of the leaf corresponding to the line of the midrib, and slightly curved veinings, less thick but telling, and distinct from midrib to edge. Yes; decidedly a noble plant with its 9 feet of height and yellow flowers, each one clasped by the more showy woollen red calyx. With a cool place for its roots, if rather wet so much the better, it may be put in

full sun, and the leaves then colour strongly. In a drier position it must have partial shade. Dense shade keeps it too green.

Where I stand is just level with the topmost ridge of the house roof. The Cedar shingles are painted with a mixture of red paint and coal tar boiled up together and applied as hot as possible. The colour is that of an old tiled barn, harmonious and unobtrusive. Over the roof, which hides out most of the garden, rises the hill across the river seamed by a ravine. Carrying the eye up this ravine for about 800 feet in perpendicular height, it is seen to widen out into a *cirque* of large extent, a green-walled *Gavarnie*, on all sides trees and grass. To the crest-line is another rise of 700 feet or 800 feet, and feathery clumps of Bamboo can be made out at the very top.

To return to the tank. In it are two later Lilies in tubs, changed from time to time. Sometimes they are white, as now, sometimes blue. On the north side is a 6-foot wall, to keep the hill, as it seems, from slipping into the tank. When I came here it was ruined. After rebuilding, to avoid a repetition of the disaster, African Lilies (*Agapanthus umbellatus*) were planted in a broad belt of irregular width on the top. Their matted roots are now interwoven, and things are as safe as they can be made. It is a sight to see this belt in flower in June and July. The wall itself is covered with the dark variety of *Valerian* (*Centranthus ruber*) with which mingles Black-eyed Susan. The biggest object above the wall is a Champa tree (*Michelia Champaca*), which has already bloomed twice. Its small *Magnolia* flowers have a penetrating sweetness. In appearance and scent they resemble *Magnolia odoratissima* (*Talauma Candollei*). Near it is my best bunch of *Gardenia*, and that not a good one, ravaged by scale and mealy bug. Shrubs display themselves to advantage on the steep hillside. They rise one above the other, thus avoiding the crowded jumble so usual on flat ground. Conspicuous among them is the useful *Holmskioldia sanguinea*, persistently red throughout the year. On examination it is seen that most of the colour comes from the round flattened calyx, and little of it is due to the actual flower. The same thing may be observed in red *Salvia*, and, as was just now noted, in *Sanchezia*. Close to the conduit, from which the water falls by a pleasantly noisy wooden shoot into the tank, is a fine Burning Bush (*Acalypha wilkesiana*), and above it a lovely member of the Orange tribe, *Murraya exotica*, distinguished and refined in leaf and flower. Hard by, the great double red *Shoeblick*.

The path makes an elbow here, passing under one of my many Loquats (*Photinia japonica*), and turning round almost over it, the uneven ground facilitating picking operations. It is only in Jamaica I have found out how exactly Loquat in flower smells like Hawthorn. This time I venture to say exactly. About Lilac I was diffident, but May has a smell one cannot forget. The tree just beyond, looking so like a Palm, is the rare Mountain Pride (*Spathelia simplex*), only known, I am told, in Cuba, Jamaica, and Hayti, common enough in our hills. Arrange very long leaves of Mountain Ash (the Scotch Rowan) Palm-wise on a single stem. Let the young fronds, if the term may be admitted, curve up from the centre coated with monkey-brown fur, and you have its picture. In a few years it flowers, alas! for sensitive colonists, the hue of Heath, and then dies. *Bougainvillea* admire the immense branched plumes. I rejoice when July and August are past, and the valleys return to their usual sober dress. In form the flower recalls that of the *Dracena* of Sicily; or imagine a spike of *Hoteia japonica*, or of one of the larger shrubby *Spiraeas* magnified many times. Dip it in a weak solution of magenta dye and you have the thing itself. I find myself wondering what colour I should like it, and generally end on deciding on pale sapphire, like *Jacaranda filicifolia* or Nigger Bitter (*Guaiaecum officinale*), the accepted and laughable perversion of its common name *Lignum vite*. After rounding the elbow the path rises easily to the public tract. A fence on the left high overhead is covered with *Beaumontia* and *Allamanda*.

(To be continued.)

THE GARDEN.

No. 1539.—VOL. LIX.]

[MAY 18, 1901.

BACKGROUNDS FOR SHOW FLOWERS.

LAST year we drew attention to the desirability of a careful consideration of the coloured grounds on which flowers are shown, the remarks being based on some of the material used by the Royal Horticultural Society for draping their stages. It is a green baize, which when new is of a hard raw green that is most unbecoming to flowers and foliage, especially to foliage, its violent metallic colour making nearly all leaves look dull and brownish.

Some enquiries reached us a few weeks ago from the organisers of one of the important northern shows, and we were glad to take pains to get them a pattern of colouring such as would suit all flowers and foliage. The colour is a certain tint of neutral grey-green, of a nature that is warm rather than cold—of course, impossible to describe accurately in words, but such a colour as may be matched in nature in many a piece of tree bark or tuft of half-dried moss. It is a colour that suits everything in the way of flower and leaf, so nearly neutral, and, though not dark, so low in tone that it does not come into competition with the most colourless foliage, such as is often seen, for instance, in Orchids.

It is open to question whether the system of rough benches covered with baize could not in itself be considerably improved upon. We think that if a little careful thought were given to the matter that it would be easy to design very simple benches with upper ranges of staging, made in such sections as could be placed or easily fitted together in any of the forms of combination that might be required. If these were simply and strongly made, and painted the suitable colour, and given a fresh coat of paint every year before the spring shows, or a washing one year and a painting the next, the most difficult of the drapery part of it would be abolished, and the stages would be neater and more uniform. The drapery might be retained on the front of the bench down to the floor level, as it is obviously convenient for exhibitors to be able to put away their baskets and other matters under the bench.

KEW NOTES.

DECAISNEA FARGESII.—The explorations that have been made in Yunnan and other little known parts of China during recent years have been instrumental in bringing to light a large number of

ornamental garden plants, and likewise a considerable number which, though of little use to the average horticulturist, are of great value and interest to scientific collections. The plant under notice is botanically interesting and ornamental also. Previous to the introduction of this species by M. de Vilmorin in 1895, one species only of *Decaisnea* was known, that being *D. insignis*, found in 1838 in the forests of Sikkim and Bhotan by Sir Joseph Hooker and other collectors, and described as being one of the most remarkable of Indian botanical discoveries. *D. insignis* flowered in the temperate house at Kew in May, 1884, a figure being prepared from the plant for the *Botanical Magazine*, t. 6731. It is described as a small tree, with several stems bearing long pinnate leaves, yellowish green flowers and yellow, edible pulpy fruits. As in several other genera, a great similarity exists between Himalayan and Yunnan species. A plant of *D. Fargesii* 6 feet high, flowering in the Himalayan house at Kew, shows a close resemblance in many respects to the older plant, but the segments of the flowers are nearly as long again, more acuminate, and are marked at the base on the outer side with greenish purple. In addition, the fruit is different, being like that of the Chinese plant in shape, thinner, and otherwise smaller. The foliage is distinctly ornamental, the leaves being pinnate, 1½ feet to 2 feet long, with large leaflets. The flowers are borne in long, semipendulous racemes from the terminal, and also from about a score of axillary buds near the top of the stem. When out of flower its appearance suggests a leguminous rather than a Berberis-like plant, to which family it belongs. Although it is called hardy, it is more suitable for a cold house, the wood being very soft and easily damaged by frost.

ECHIU M CANDICANS.—This is a rare species, but very ornamental in the conservatory. It has been cultivated at Kew for several years, and a batch is now in flower in the temperate house, where it forms quite a distinct feature, and a striking contrast to the better known blue-flowered *E. callithyrsum*. It is a biennial plant, taking from eighteen months to twenty months to flower from the time of sowing the seeds. For the first fifteen months it consists of a short stem an inch or two high, surmounted by a dense rosette of long, narrow, acuminate leaves, densely clothed with fine silky white hairs. When fifteen months old the stems begin to elongate, growing rapidly to a height of from 2 feet to 2½ feet, the upper foot forming a dense cylindrical head of rose-coloured flowers with long stamens. This dense head of flowers makes a striking contrast to the elegant whitish leaves which clothe the whole stem from the top of the pot to the flowers. Seeds set and ripen freely. They should be sown in August in well-drained sandy loam, and the seedlings pricked off singly into small pots when large enough to handle. As soon as the pots are well filled with roots larger ones must be given, until 6-inch pots are reached, in which size they will flower. A mixture of two parts loam to one of leaf-mould and rotten manure forms a suitable compost. They should be grown in as light a place as possible, shading from very strong sun, have little or no syringing, and throughout the winter great care must be taken to keep the leaves quite dry. It is also necessary to remove the plants from a house or frame if the place is to be fumigated, as like all other *Echiums*

the leaves are easily injured by tobacco smoke. Like *E. callithyrsum* it is a Canary Island plant, and succeeds in a cool greenhouse.

W. DALLIMORE.

THE YELLOW ROOT (XANTHORRHIZA APIIFOLIA).—This rare and curious little shrub, a native of the United States, where it is known under the name here given, is the only species in the genus. It owes its popular, as well as its generic name, to the thick creeping roots, which are yellow, and which also yield a dye of that colour. This dye was used greatly by the North American Indians in earlier times when they were masters of the continent. It is a deciduous plant, with pinnate leaves, and does not grow more than 2 feet to 3 feet in height. It bears its small flowers in April very numerous on erect branching panicles and before the leaves are expanded. Each flower is about one-third of an inch across, and of a dark, dull purple. Although its nearest relatives among hardy shrubs are the Clematis and Moutan Pæony, the plant can scarcely be called beautiful, yet it is singular and interesting. It is also one of the earliest of hardy shrubs to break into flower, a little group of plants having been in bloom at Kew for some weeks in the open ground. The species was introduced originally in 1776 from Pennsylvania.

RHODODENDRON RUBIGINOSUM.—Among the modern explorers of Central China one of the best known names, so far as horticulture and botany are concerned, is that of the French missionary, l'Abbé Delavay. Collecting on the Tsang-chan Mountain, in the province of Yunnan, about sixteen or eighteen years ago, he first discovered this *Rhododendron* at an altitude of over 8,000 feet. Reaching Europe by way of the Jardin des Plantes at Paris, it came thence to Kew, where it has flowered annually during the last four or five years. It certainly promises to be one of the best of the *Rhododendrons* that flower in late April and early May. Of compact, rounded habit, it will not apparently grow more than 4 feet or 5 feet in height. Its leaves, 2 inches to 3 inches long, pointed and lance-shaped, are well marked on account of the innumerable tiny reddish-brown scales that cover the lower surface, the upper one being of a dark glossy green. The trusses each carry from four to eight flowers, which are of a clear, rosy lilac colour, spotted with maroon on the upper surface, and 1½ inches to 2 inches across. It resembles *R. punctatum*, a North American species, but flowers more freely. As a dwarf evergreen it is worthy of notice, and there is no reason why it should not spread in cultivation, for it produces good seed in quantity.

THE MOUNTAIN CHERRY (PRUNUS PROSTRATA).—There are several of the shrubby species of *Prunus* now in flower, but this is one of the rarest of them all. It is also one of the most distinct and beautiful. It is a shrub of low, spreading habit, and although not prostrate in cultivation, its long, slender branches arch out horizontally and make it considerably more in width than it is in height. Just now a good specimen in the collection at Kew is covered with lovely rose-coloured flowers. These are each ½ inch to ¾ inch in diameter, and borne on short stalks close to the wood, and thus, in their abundance, almost cover the branches. The leaves (which follow the flowers) are ½ inch to 1½ inches long, the margins set with fine, even teeth. On the mountains of the Levant, where it is a native, and whence it was introduced in 1802, it reaches

up to altitudes of 5,000 feet and 6,000 feet. It belongs to the Cherry group of the genus *Prunus*, and was known to Loudon as *Cerasus prostrata*. He recommends it as a desirable species, but it has never obtained the real footing in gardens that it merits, notwithstanding its beauty and perfect hardiness.

BERBERIS DICTYOPHYLLA (FRANCHET).—Just now there is flowering at Kew a specimen of this new Chinese Barberry, probably for the first time in Great Britain. The species is a native of Yunnan, where it was discovered in 1886 by M. l'Abbé Delavay at an altitude of about 10,000 feet on the mountains above Lankong. It has already been figured by M. Franchet in his "*Plantæ Delavayanae*," t. 11, and is there said to be allied to the Himalayan species *B. angulosa*. The Kew plant has proved to be perfectly hardy since 1897, in which year it was presented to Kew by M. Maurice de Vilmorin. As regards its value as an ornamental shrub for gardens it may be described as quite distinct and promising. While it cannot (yet at least) be placed in the very first rank along with such sorts as *B. Darwini* or *B. stenophylla*, it is superior to many of the species at present in cultivation. It is a deciduous shrub, at present 3 feet to 4 feet high, but, judging by other species of a similar character, will probably get to be at least twice that height. The habit is graceful, the main branches being long, slender, and arching, and each joint is armed with a triple spine. The leaves are borne in a kind of rosette at the end of short axillary branches, and these rosettes (each consisting of about six to nine leaves) are about $\frac{1}{2}$ inch apart on the main branches. The leaf is sessile, obovate, $\frac{1}{2}$ inch to 1 inch long, rather glaucous beneath and bright green above; it is often entire, except for a mucronate, spiny tip, or it is serrate, with each tooth terminated by a spine. The flowers are of the typical Barberry form, being $\frac{1}{2}$ inch in diameter, cup-shaped by reason of the involute arrangement of the sepals and petals, and of a clear, bright yellow, but not so deep in shade as in *B. Darwini*, for instance; they are borne singly, in pairs, or in triplets, at the end of each short axillary branch, forming a centre to each rosette of leaves.

Arboretum, Kew.

W. J. BEAN.

MOUNT USHER IN MAY.

It would probably be impossible to visit this charming County Wicklow garden at any time of year without finding much to interest the lover of hardy and half-hardy plants and shrubs, but in May it is a veritable paradise.

The river Vartry divides the place into two unequal portions. Some of the most striking features just now are the mats of *Aubrietia* which hang down over the river wall. Crown Imperials (*Fritillaria imperialis*), too, are very fine—a most effective group being perched on a high bank, smothered below with Ferns, Primroses, &c., the dense mass of shining green foliage, with the yellow and red-brown flowers standing out with great vigour against a distant background of budding trees. Close to this is a long, somewhat sinuous border of St. Brigid Anemones, grown from home-saved seed and bearing huge flowers of almost every hue, except the yellow series, which tone has been interwoven by planting thinly amongst the Anemones Barri and other Daffodils, of which there is an exceedingly fine strain.

The Anemone border brings us to the river margin opposite the *Aubrietia* aforesaid, and here we see amongst other choice things a few specimens of *Pyrus Malus floribunda* simply covered with its bright coral buds and pink blossoms. Here and elsewhere Gunneras are throwing up strong young growth, and several large plants of *Abutilon vitifolium*—both the mauve and white forms—are promising a rich harvest of bloom a little later on. The same may be said of a *Benthamia fragifera* (the Strawberry tree of Népaul).

Primroses and Polyantheses are of course in wild profusion, and of a great variety as to colour, but it is very questionable if there is any member

of the whole family to surpass in beauty the common Primrose when seen at its best, nestling on a shady grassy bank. On the other side of the river and near the house, which in days gone by was an old cornmill, I noticed a very beautiful pure white form of *Narcissus Leedsii* and masses of *Gentiana acaulis* covered with its great blue bells, and in an enclosed yard a well-flowered sod of *G. verna*.

Against a sunny wall is a large plant of the somewhat rare shrub, *Crinodendron*, now called *Tricuspidaria*, with its very dark, almost black leaves and deep crimson flowers, while not far off is a good sized tree of *Paulownia imperialis* well set with buds. To the boughs of this tree have been attached numerous half Cocoa-nuts for the benefit of the birds and the squirrels, both of which may be continually seen gnawing at the kernels.

The tail race from the mill runs down a narrow gully, in which native and foreign Ferns luxuriate. Amongst the most noteworthy of the latter are *Todea pellucida* and *T. superba*, growing well, but not yet very large, *Woodwardia radicans*—so far not left out in winter—*Adiantum pedatum*, and many more. But space and time would fail for the enumeration of a tithe of the beauties which are to be found in Mount Usher. No description can convey the faintest idea of its charms, which must indeed be seen before they can be imagined. One other I must mention, namely, *Senecio leucostichys* from Patagonia, a graceful, branching shrubby perennial, with slender leaves and stems pure white from the closely adherent tomentum; it was not in flower, but was most striking against the green of its neighbours.

G. P.

EDITORS' TABLE.

At this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flowers so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they may be addressed either to Miss Jekyll, Munstead Wood, Godalming, or to Mr. E. T. Cook, 20, Tavistock Street, Covent Garden, London.

FLOWERS FOR ILLUSTRATION.—We shall be pleased if readers will send any rare or good garden flowers worthy of illustration to Mr. H. G. Moon, Herbert Lodge, St. Albans. This will assist us greatly in maintaining an interesting series of flower sketches.

POLYANTHUSES AND BUNCH PRIMROSES.

Mr. J. Crook, Forde Abbey Gardens, Chard, sends us a gathering of Bunch Primroses and Polyantheses, good and varied in colour, and in every way satisfactory. They show how careful a selection has been made for many years past. The yellows are rich, and the quieter colours of much charm and delicacy.

PANSY COUNTESS OF KINTORE.

From the same place comes a boxful of this well-known Pansy, which still remains, and rightfully, too, one of the best of hardy garden flowers.

LATE APPLES.

Mr. Crook sends also excellent fruits of Annie Elizabeth, Hanwell Souring, and Wellington Apples, to show how carefully they have been preserved. We are much interested in such fruits as this, especially after the long discussion which has taken place about the cold storage of fruit. Mr. Crook writes:—"Fruit of Wellington and Hanwell Souring is of fine flavour now, and the

last-mentioned is difficult to beat, although an old variety. They were gathered from standard trees, either on the grass or with vegetables grown underneath. When fruit like this can be had at this date there is no need for imported material."

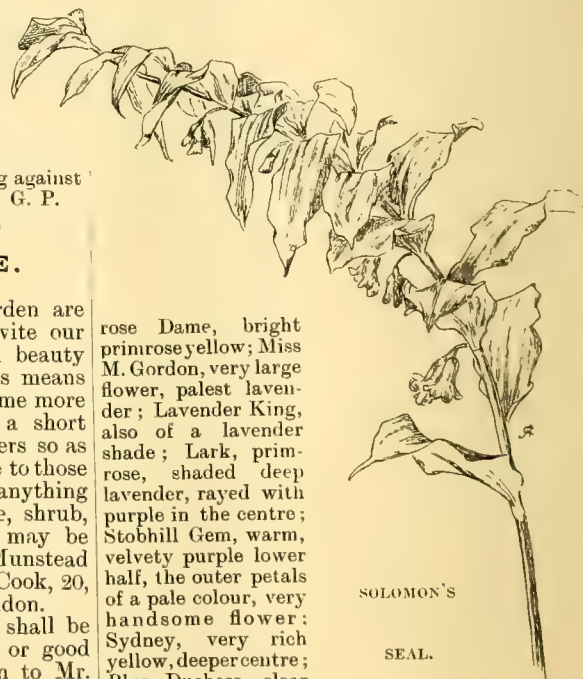
We receive from Dr. Lionel Beale blooms of

SAXIFRAGA PELTATA,

a fine plant of important aspect for the damp borders of the bog garden. The tender pink flowers with bright rosy centres are in umbels that rise on tall stalks before the leaves appear. The leaves that are to follow are large and handsome. It is one of the best of plants for moist ground on the fringes of the garden where things of distinct and pictorial effect are desired.

PANSIES FROM SCOTLAND.

Messrs. Dobbie and Co., Rothesay, N.B., send a great gathering of Pansies, representing the finer varieties in their large collection. Among the more conspicuous are *Ophelia*, a large, warm, purple flower with yellow centre, very sweetly scented, one of the best things of its kind we have seen for a long while; *Nellie* is a large, creamy white, very beautiful in every way: *Prim-*



SOLOMON'S

SEAL.

rose Dame, bright primrose yellow; Miss M. Gordon, very large flower, palest lavender; Lavender King, also of a lavender shade; Lark, primrose, shaded deep lavender, rayed with purple in the centre; Stobhill Gem, warm, velvety purple lower half, the outer petals of a pale colour, very handsome flower; Sydney, very rich yellow, deeper centre; Blue Duchess, clear bluish shade; Princess Beatrice, rosy purple; Lady Salisbury, sulphur white, rays of purple in the centre; Princess Ida, most delicate lavender, a very beautiful flower, sweet, and charming for cutting; and Pembroke, a fine yellow.

"S." sends sprays of Solomon's Seal, which is now very beautiful in many gardens. A plant so graceful and quiet in colouring should be more often grown in half shaded places, by edge of woodland, or in the border. It is a plant to make free groups of.

Mr. T. B. Field, of The Gardens, Ashwellthorpe Hall, Norwich, sends, with the following interesting note,

THE WHITE BANKSIAN ROSE.

"I am sending you some flowers of this charming Rose. I have a plant growing here in a cool greenhouse literally covered with bloom. I find it most useful at this time of the year. To grow this Rose well it should be given a conspicuous position, such as a wall, pillar, or the roof of the greenhouse or conservatory. It is a very rapid grower, and needs much space to allow of its beauty being seen; it should always be allowed to grow its own

way, and with me it never fails to bloom. Pruning should be attended to immediately after flowering, all that is required being to cut out the extra vigorous sappy growths, and remove a few others where they are crowded, but on no account prune hard back. Banksian Roses flower upon the tiniest growths imaginable. Care should be taken that they are not overcrowded, and the sun should be allowed full play upon the branches. Give a good soaking of manure water at intervals during the summer, and use the syringe freely to keep down green fly and red spider. The result is thousands of clusters of this beautiful Rose."

CLIANTHUS PUNICEUS.

Mr. Field also sends clusters of bloom of this useful and almost hardy greenhouse climber. "This is a capital plant for walls or pillars of a cool conservatory. The soil I use is two parts turfy loam, one part leaf-mould, and rotten manure. I grow my plants in 12-inch pots, standing them outdoors all the summer, and placing them in the greenhouse towards the end of October. Keep them neatly tied to stakes, and give occasional waterings with liquid manure. Should green fly or red spider attack them, the syringe will soon put them to flight. Grown in the manner described, they will not fail to succeed well and flower profusely."

A CURIOUS DAFFODIL.

Messrs. Barr and Sons send us a flower of a curious Daffodil, a freak which has never, we believe, occurred before in their collection. The leaf is rolled round the stem, and then forms a narrow kind of hood, at the base of which the flower emerges. The flower did not expand more than shown in the accompanying drawing.

NOTES OF THE WEEK.

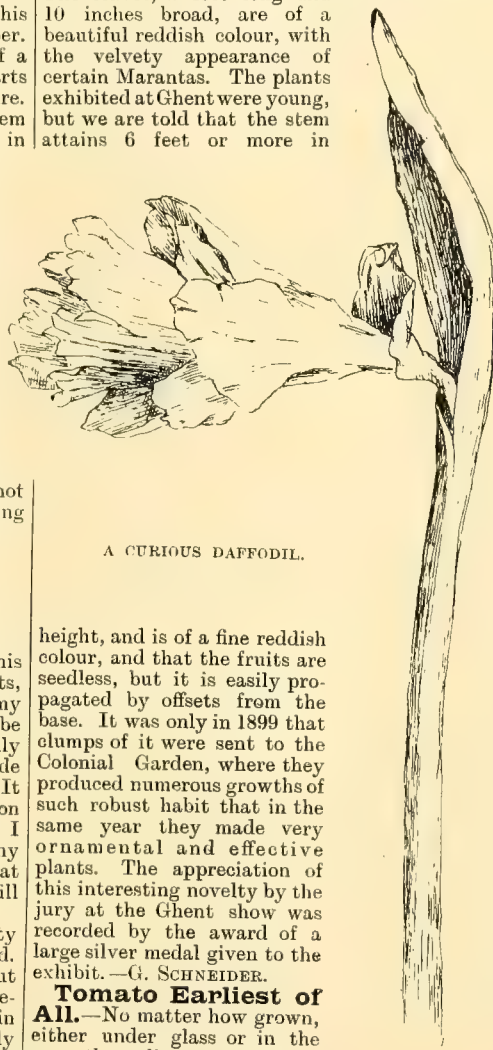
Lonicera hildebrandiana.—This Honeysuckle is now sending forth strong shoots, and I confidently expect a great reward for my trouble in the course of a few weeks. It will be so if the weather is favourable, and my only wonder is that any plant can stand such a wide range of temperature as it is able to bear. It seems quite happy when the thermometer on my western wall is above 90° Fahrenheit, and I have known it to sink below 30° without any harm being done. But a blazing summer is what it really desires, and for its sake I hope it will come.—H. EW BANK.

Oncocyclis Iris.—I believe the difficulty with this class of Iris is now quite at an end. They have frequently blossomed in my hands, but never so well as this spring. At last their predilections are made quite plain. They are in most cases lime-loving plants, and if they be only treated to some bone-meal or its equivalent they will be sure to verify the remark—elegance of form, delicacy of colour, quaintness, the most refined marking. Beautiful contrasts can go no farther, as I think, than is seen with them.—H. EW BANK.

Iris tingitana has been the subject of such interesting controversy that one cannot be too precise about any remarks with regard to it. I can vouch for the fact that for at least fifteen years it has never once blossomed in this garden, and my mind was so irreceptive of the idea that it could flower here that I do not think I should have noticed the great fat buds that were swelling delightfully in various places if they had not been pointed out to me by Sir Michael Foster. Now things are so much advanced here, that he who runs may read. *Iris tingitana* speaks for itself and very clearly too. A friend who paid a visit to Morocco some two or three years ago promised to remember me in his travels, and a second importation was the result of his journey for me. I think they are behaving just as the others are which have been so much longer with me. The

hot summer of 1900 is beyond all doubt the cause of my success.—H. EW BANK.

Musa paradisiaca rubra at the Ghent show.—Under that name Mons. A. Truffaut, the well-known French nurseryman, exhibited on April 28, at the Ghent show, a distinct, striking, and beautiful plant, which undoubtedly is a form of *M. paradisiaca*, having the same habit, mode of growth, and slender stem as the original species. The colour of the foliage of this plant, which was seen for the first time by the French explorer Dybowski as far back as 1891, at the mission house of Brazzaville, in the French Congo, differs from anything already known. The leaves, 3 feet long and 10 inches broad, are of a beautiful reddish colour, with the velvety appearance of certain Marantas. The plants exhibited at Ghent were young, but we are told that the stem attains 6 feet or more in



A CURIOUS DAFFODIL.

height, and is of a fine reddish colour, and that the fruits are seedless, but it is easily propagated by offsets from the base. It was only in 1899 that clumps of it were sent to the Colonial Garden, where they produced numerous growths of such robust habit that in the same year they made very ornamental and effective plants. The appreciation of this interesting novelty by the jury at the Ghent show was recorded by the award of a large silver medal given to the exhibit.—G. SCHNEIDER.

Tomato Earliest of All.

No matter how grown, either under glass or in the open, the earliest vegetables are always appreciated, especially if they are of good quality. I have given many varieties of Tomatoes a trial to get early supplies, and growers like myself have often found that those called the earliest are not always so. There is, however, no mistake that the Tomato called Sutton's Earliest of All is rightly named; it is unquestionably the earliest red Tomato in cultivation, and grown by the side of other kinds its free setting, even in dull weather, makes it valuable for earliest supplies. The fruits are slightly corrugated. I have always noticed this tendency with early kinds, but it is not objectionable; indeed, one of the best flavoured Tomatoes we grow may be termed a ribbed fruit. Unfortunately, the smooth round fruits are not free setters early in the year. For outdoor crops I do not know of any variety so trustworthy for early supplies, as, planted out in May, ripe fruits may be gathered early in July. It is a very heavy cropper, and the plants produce abundance of fruit of medium size and a bright red colour, the flavour being all one may wish for.—G. WYTHES,

Hybrid Sunflowers.—At the last meeting of the Royal Horticultural Society I heard it announced that a hybrid had been raised between *Helianthus rigidus* and *H. annuus*. It will be interesting to know whether it proves perennial. As a rule hybrids follow the duration of the shorter lived parent; but I have for nearly twenty years believed that the garden perennials passing under the name of *H. multiflorus* are hybrids of *H. decapetalus* and *H. annuus*. There are at least four varieties of *H. multiflorus*, two of them double and two single, and as far as I know there is no historical record of the first appearance of any of them. Asa Gray says that *H. multiflorus* is certainly a development by cultivation of *H. decapetalus*, but between the type *H. decapetalus* and the smallest form of *H. multiflorus* there are many sizes—to speak—which are not represented by any known form, so that the jump from one to the other seems unlikely. Again, though I have frequently asked, I have never been able to hear of any fertile seed having been produced by any form to *H. multiflorus*, though the type *H. decapetalus* is very fertile in seed. I regret that the conditions of soil and climate in my garden are not favourable for experiments in hybrid Sunflowers. Closely allied forms, such as *H. rigidus* and *H. doronicoides* seem to produce spontaneous crosses freely, and a friend who once had a very handsome cross between *H. annuus* and *H. cucumerifolius* once sent me a few seeds of the hybrid from which I raised about twelve plants. These divided themselves into unmistakable types of *H. annuus* and *H. cucumerifolius*, two or three of the former being double, but not one of them showed intermediate characters.—C. W. DOD, Edge Hall.

Tulipa kaufmanniana.—This very beautiful Tulip is one of the earliest of the genus to bloom with me, and this year it has again proved the precursor of its sisters, although it is not so fine as usual, and looks as if it needed a rest and a change of soil, which it has not had since it was planted here in 1894. Possibly the severe frost at the end of March somewhat harmed it, as it was left unprotected by an oversight while it ought to have had a glass over it to preserve the flower then in bud. It is one of the most beautiful of our Tulip species, and well deserved the first-class certificate of the Royal Horticultural Society which it received on March 23, 1897. It has well been likened when open to a small Water Lily, the flowers resembling some of these in their form and colouring. The best forms are very handsome, with their yellow centre, creamy white segments, backed with carmine-red, and, in some choice forms, with a carmine zone. It produces flowers which in a wild state are said to vary from pale pink to pale rosy purple. It was one of the finds of Albert Regel in Turkestan, and is quite hardy, although its early habit of flowering calls for something over the flowers in bad weather.—S. ARNOTT, Carsethorn, by Dumfries, N.B.

Iberis sempervirens.—Among the many ornamental plants of the natural order Cruciferae that bloom in spring and early summer, one of the most useful is the evergreen Candytuft, with its masses of pure white flowers and dark green foliage. It is equally good in the front edge of the flower border or among boulders in the rock garden. It is also a most accommodating plant, for it is one of those that for several years can be left untouched, the neat healthy-looking cushion of dark green leaves only spreading a little wider year by year. In course of time the tuft will open and show bare stems and have the appearance that our French friends aptly describe as "fatigued." This we must take as the first symptom of wearing out, when the tuft, which will then be grown to a large size, should be pulled to pieces and replanted. Flowers are rare that are of so dead and solid a quality of white. This good plant blooms at the end of May when spring is merging into early summer, with the Florentine Iris, and the Snowdrop Anemone (*A. sylvestris*). When we see this good company in bloom together we know that summer with its wealth of flowers is at hand. Such a mixture of plants, with the addition of Aubrietia, is much to

be recommended in any band-like space or bold rockery, keeping the Iberis as a general ground-work in longish plantings. The effect of a rock garden is often spoiled by the plants being all dwarf; an occasional bold departure in the use of something of upright habit, such as one of the many beautiful Irises, is much to be desired.

Lilies from seed.—Perhaps some reader of THE GARDEN can give information on rather an interesting point in vegetable physiology. It has been asserted that the seeds of some Lilies, especially *L. monadelphum*, germinate underground, and that the young bulb goes on increasing for three or four years without making any growth above ground, until it is nearly large enough to flower. It is a matter which requires confirmation before it can be accepted by scientific botanists as a fact.—C. W. Dob.

Mr. MacKellar.—The appointment of Mr. MacKellar to the control of His Majesty's gardens at Windsor calls to mind a remarkable coincidence that perhaps is not generally known. Mr. MacKellar, it may be noted, is a Scot, and had his earliest training in Scotch gardens, in 1874 passing from the Earl of Haddington's place to Lord Penrhyn's, in Wales, and returning to Scotland six years later to take charge of the Duke of Roxburgh's extensive gardens at Floors Castle, where he spent some ten years, and in that time brought to a conclusion many structural improvements in the glass department, concreted and renewed all the Vine borders, and among other good work showed how *Cœlogyne cristata* ought to be cultivated. He has been at Sandringham about ten years, and the same thorough overhauling of structures and high culture in special subjects has characterised his work there. The curious thing is that Mr. MacKellar is the third "Royal" gardener who has gone in succession from Floors, his predecessor, Mr. Knight, passing, after a short stay at Mr. Smith's place at Henley-on-Thames, to the King of the Belgians at Laeken; and then his immediate predecessor, Mr. Rose, who is said to have attracted Queen Victoria's attention when on a visit to the Duchess of Roxburgh, was transferred direct to Windsor, where, after a short time, he was cut off by sudden illness. We still hear Mr. Rose mentioned for the wonderful examples of good Vine culture he produced while in the Queen's service, and many gardeners in various parts of the country will remember him for the kind interest he displayed in the welfare of young men. A characteristic piece of advice the writer still calls to mind which he gave to young gardeners at a meeting held in Kelso. After enjoining them to see all the good gardens they could, and to buy all the horticultural works possible, he concluded with the warning to save and preserve intact £5 for any emergency.

Royal Gardeners' Orphan Fund.

We are very pleased to note that the fund received hearty support at the recent dinner, and the secretary (Mr. Wynne) will be very glad to receive any further donations. The total amount of subscriptions was £600. The chairman's list came to £375, the following donations being received: The Hon. W. F. D. Smith, M.P., 50 guineas; Messrs. Rothschild, 25 guineas; N. N. Sherwood, £25; W. Sherwood, £5; Ed. Sherwood, £5; Mrs. Campbell, £5; Arthur Sutton, 25 guineas; Leonard Sutton, 25 guineas; James Veitch and Sons, 10 guineas; H. J. Veitch, 5 guineas; Sir C. Tennant, £10; Mrs. W. G. Head, £9; George Burt, £5; G. H. Richards, 5 guineas; Messrs. Dicksons, Limited, Chester, £5; H. B. May, £5; Messrs. Wills and Segar, 5 guineas; the *Gardeners' Chronicle*, Limited, 5 guineas; C. B. Kinniel and Co., 5 guineas; A. H. Smea, 5 guineas; Thames Bank Iron Co., 7 guineas; A. Waterer, 5 guineas; Messrs. Fisher, Son, and Sibray, 5 guineas; and other smaller amounts. The friends connected with Covent Garden Market together subscribed £104 5s. The stewards' lists comprised G. H. Cuthbert, £16 14s.; W. Whitpain Nutting, £9 3s.; H. Perkins, £4 10s. 6d.; P. Knowles, £10 14s. 4d.; G. Reynolds, £25, including £20 from Mr. Leopold de Rothschild; W. Howe, 5 guineas; J. F.

McLeod, £12 2s. 6d.; W. H. Cutbush, £10 7s.; Harold G. Morris, £21 11s.; T. W. Sanders, £5 9s. 6d.; and R. Dean, £7 17s.

Royal National Tulip Society.—A Tulip conference and the eighth annual southern exhibition will be held under the auspices of the Birmingham Botanical and Horticultural Society on Thursday next, in the Botanical Gardens, Edgbaston. The president is the Rev. F. D. Horner, M.A., Burton-in-Lonsdale, and the honorary secretary is Mr. A. D. Hall, The College, Wye, Kent.

Horticultural events next week.—Next week is a very busy one in horticultural circles. On Tuesday evening the dinner of the Kew Guild takes place, under the chairmanship of Sir W. Thiselton-Dyer, Wednesday is the first day of the Temple show of the Royal Horticultural Society, and in the evening there is the annual festival dinner of the Gardeners' Royal Benevolent Institution, while there are other minor fixtures.

Triteleia uniflora.—It is a pity that this free-blooming early spring bulb is not more grown. Every lover of spring flowers should know it. In groups, in company with the early Scillas, it is beautiful—the colour goes so well with the blue of the Scillas. I have been impressed with its value more than ever this spring through seeing a large patch at the foot of a wall, growing on the top of the roots of a Tea Rose, and I pass it every day. It has been in this position for eight or nine years, and blooms well every spring. I counted upwards of 100 blooms open at one time on a patch not more than 2 feet across. It is not at all particular as to soil if not too heavy. It is to be recommended for growing in pots, for early work, or in cold frames.—J. CROOK, *Forde Abbey Gardens, Chard.*

Myosotis dissitiflora growing on grassy banks.—Some time ago several notes appeared in THE GARDEN regarding plants that make a good display on grassy banks. I do not remember seeing this fine Forget-me-not mentioned. This *Myosotis* is associated closely with the late Mr. D. T. Fish, and those of us who can go back thirty or forty years remember how well he grew it. I venture to say there are few who will disagree with me in saying it is the best of them all. I admit it is a little tender, but this is overcome by selecting a good home for it in a sheltered spot, which I have done for several years on a sunny bank, sheltered by high shrubs from the east and open to the west. The bank is somewhat dry and the grass on it scarcely grows, hence it thrives amazingly, and gives a glorious piece of colour every spring. It has been in its present place three years and not needed replanting. Early Scillas, Snowdrops, &c., give colour previously, and things growing thus look most natural.—J. CROOK.

The late Mr. Michael Davis and the Manresa Vine at Roehampton.

—May I claim the privilege of sincerely thanking you for the eulogium justly passed in your recent obituary notice of this excellent gardener, and, by way of supplement, crave a little space to pay a passing and deserved further tribute to one whom I knew intimately, and, in so doing, to refer—a little in detail—to that which made him justly famous in the horticultural world, as being the raiser of the celebrated Manresa Vine. Firstly, a few words on the man himself. You justly characterise him as "a great-hearted Irishman." He possessed all the geniality of his race, combined with true modesty. That was a great day for Michael Davis when M. Paderewski visited, about a year ago, the beautifully-situated gardens of the Jesuit College, Manresa House, Roehampton, to inspect—as many other great men and women have done—the celebrated Vine, and then adjourned to Mr. Davis's house, and sitting down to the piano played many selections. As to the Vine: It was planted against an outside wall in the kitchen garden, for the purpose of obtaining leaves for garnishing. A portion of the wall against which it grew was removed, and a viney 70 feet in length and 11 feet in width was erected over it. This was finished in October, 1870. At the end of two years the Vine had grown so much

that the house was extended to its present length—224 feet. Only a short time ago Mr. Davis wrote me a letter (which I shall always cherish), and in it, referring to the Vine, he remarks: "The number of bunches last year (1900) was 740; weight, 840lbs. I have kept an account for nine years of the weight of Grapes taken from it, which amounts to 9,141lbs." The following notes give one an idea of the size of the Vine. If all the rods were cut off and placed in a line, they would extend to a distance of 1,365 feet, or over a quarter of a mile. It is covered by 3,825 square feet of glass, whereas 2,200 feet suffice for that at Hampton Court. It is not, therefore, surprising that the Hampton Court Vine has been compelled at last to surrender the championship. It is very pleasant to hear that Mr. Davis succeeded in the charge of the gardens over which he so ably presided for the very lengthened period of more than forty years by one of his sons.—Quo.

Blandfordia nobilis.—As far as individual blooms are concerned this is by no means the showiest of the Blandfordias, yet it is one of the least exacting in its cultural requirements, and flowers so freely with ordinary greenhouse treatment that it is, perhaps, the most valuable member of the genus. It forms naturally a tuft of grass-like leaves, firm in texture, and reaching a height of a foot or thereabouts, while the erect flower scape, which well overtops the foliage, bears on its upper part from ten to twenty charming blossoms. They are of an elongated bell-shape, orange, deeply flushed with red, but paler at the mouth, and remain fresh from ten days to a fortnight. The most suitable compost for the Blandfordias is equal parts of loam and peat, with a liberal sprinkling of silver sand. Potted in this and given much the same treatment as a *Pelargonium*, *Blandfordia nobilis* will grow and flower freely. The best time of the year for repotting is directly the flowers fade, as the roots being then active they quickly take hold of the new soil. Thorough drainage is necessary, for stagnant moisture is very detrimental to their well doing, yet they need to be freely watered during the growing season. In the winter, however, the soil will only require to be kept fairly moist. Those with large and more massive blossoms, such as *B. Cunninghami*, *B. flammea*, and *B. princeps*, form fewer and stouter roots than *B. nobilis*, and they also resent disturbance to a greater extent. For this reason *B. nobilis* is more readily increased by division than they are, though even in this case the operation must be carefully done. For the amateur with but a single greenhouse this last named has much to commend it, as it can be depended upon to flower well without any special treatment. The Blandfordias are all natives of Australia, and form one of the showiest groups of the smaller lilaceous plants which occur on that continent.—H. P.

Clivia miniata citrina.—Accustomed as we are to see the different forms of *Clivia miniata* with flowers of an orange or salmon red tint, without any marked divergence from the typical kind, this variety, from its distinct appearance, at once arrests attention. In this the colour of the flower is a pale cream or straw, tinged in the centre with orange. In all other respects it is a counterpart of the type. This variety, which first flowered in this country in 1897, is a native of Zululand, and probably with the opening up of that district it may become more common, for at present it is very rare. A good specimen is just now in flower in the T range at Kew, where it has bloomed for the last two or three years, but it does not appear to be in commerce yet; indeed, we may have to wait some time for this, though if it comes true from seed the period may be shortened. Apart from its own intrinsic merit, it may also prove of considerable advantage to the hybridist in the production of new and distinct varieties.—H. P.

Browallia speciosa major.—Spring, summer, autumn, or winter, all seem alike to this pretty Colombian flowering plant, which, given the temperature of an intermediate house, will bloom nearly throughout the year. It is a free-growing subject, and as neat, profusely branched

bushes about 18 inches high, is very effective for various decorative purposes. The flowers have a tube over 1 inch long, and a spreading mouth, which is divided into five segments. The colour is a rich violet-blue when first expanded, but afterwards the blossoms become paler and also increase in size. This *Browallia* is very readily increased either by means of seeds or cuttings, for these last strike as readily as a *Fuchsia*. A most characteristic illustration of this charming *Browallia* was given in the present volume of *THE GARDEN*, page 29. There are other species, but this is as far as I know the showiest member of the genus.—T.

Lithospermum purpureo-cœruleum.—The *Lithospermums* or *Gromwells* seem as if they were to assume a more prominent place in our gardens than they have done for some time. At least this is what one augurs from the way in which the members of the trade are giving them increased prominence. Several new species have been introduced of late, and the older aspirants for our favour are being more appreciated. It will thus be a pity if our native *Lithospermum purpureo-cœruleum* should fail to have anything said in its favour. It has, unfortunately, the fault that it does not always flower in gardens unless we check its desire to increase by sending out long runners which seem to take from the plant its ability to flower, so that these must be pinched off if we are to have bloom. This should be done as soon as they make a little growth, in order that the strength may be thrown into the flowering crowns. If this is attended to one will be well rewarded with its clusters of deep blue-purple flowers in May. It also prefers a chalky soil, where its brilliant, yet deep, colouring seems intensified. It is not so dwarf as some, but a height of about a foot is not excessive even for the rock garden.—S. ARNOTT.

Carnation Belle Rose.—This fine tree *Carnation* does not seem to be so generally grown as formerly. Probably its tendency to die off suddenly in winter in the same way as *Miss Joliffe* does has rendered it unpopular. Despite this drawback, however, it is, I consider, indispensable where *Carnations* in quantity are required during winter. No other variety that I am acquainted with grows or flowers as freely. The finest lot of plants I ever saw were grown in a Kentish garden, in a mixture of three parts rather strong fibrous loam, and one part leaf-mould and coarse sand or grit, a compost that will grow tree *Carnations* to perfection, without the addition of manure. The plants referred to occupied 8-inch pots, and during summer were placed in a sunny position out of doors and carefully watered, especially in wet weather. Early in October they were in a low, light, airy house, where they produced hundreds of their bright red, prettily fringed, sweet-scented flowers throughout the winter and spring. The flowers are borne on long, stiff stems, and are admirably adapted for bouquets, button-holes, and dinner table decoration. Mr. Taylor, of Grape growing fame, when gardener at Longleat used to grow *Belle Rose* to perfection. The large bushy plants were loaded with bloom, and as he practised disbudding the flowers were of large size and substance. I think many failures with tree *Carnations* are due to the use of manure in the soil.—J. CRAWFORD.

Corydalis Halleri.—This little *Fumitory* has been looking unusually well this season, and a longer acquaintance with it and seeing it now in a larger state make one modify a rather unfavourable opinion formed when the plant was small and the heads of bloom few. Now that it has grown larger and shows more bloom, one finds it grow in favour, especially when seen against the carpet of dwarf greenery on the rockery on which it grows. If I remember correctly, I bought it because it was described as "blue." This it certainly is not, though I should be puzzled were I to be called upon to describe its hues in set terms. Probably I could best describe it as a *C. bulbosa* with all its colouring considerably deepened and improved. It is, indeed, referred to as *C. bulbosa* by the "*Index Kewensis*," but gardeners will be satisfied that it is a plant worth a distinct name, even if we only call it *C. bulbosa* var. *Halleri*. It blooms earlier

here than the typical *bulbosa* or its white form, and is in full flower when the others have not opened a flower. It flowered early in March this season. It is perfectly hardy, and I see from the label that I had it from Mr. Van Tubergen in 1897. My experience of this year is decidedly gratifying, and one likes to do justice to a flower one has formerly held in but little regard.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

THE FERN GARDEN.

HARDY FERNS.

BLECHNUM SPICANT (THE HARD FERN).

WE carefully abstain from calling this species *Lomaria*, because its form of fructification—which determines the species—is that of *Blechnum*, differing from that of *Lomaria* in the fact that each line of spore heaps has a special independent membranous cover springing from well inside the edge of the pinnae, while in *Lomaria* the pinnae edge itself forms the cover by rolling backwards. As a very cursory examination determines this, and scientific botanists themselves have separated the two genera for the reason stated, it is a curious anomaly that the name *Lomaria* should be adopted. *Blechnum spicant* is a solitary species of the genus in Great Britain, and has earned the name of *Hard Fern* by the tough leathery texture of its intensely dark green fronds. These are normally once divided like two blunt and widely toothed combs set back to back; a further and unmistakable characteristic is that two kinds of fronds are produced fertile and barren, the former being erect and longer than the other, and the pinnae much narrower, only wide enough indeed to bear the twin lines of spore heaps with the midrib between and the indusia or covers. In favourable situations the plant assumes fairly large proportions, the barren fronds as much as 2 feet long and the fertile ones little short of 3 feet high. It dislikes lime, and revels in a loose damp leafy or peaty soil, though thriving also in a smaller form in friable loam alone. Damp hedge banks, ditch and stream sides, and shady woody slopes are its pet abiding places; it also loves moorland, and is there found in quantity associated with *Heather* and *Lastrea montana*. It is perfectly evergreen, but under culture its dislike of lime must be remembered, and hard water sedulously avoided. The two types of fronds are maintained in all its varieties but *anomalum*, not rare in hilly districts, which apex its foreign relatives by bearing spores on uncontracted fronds, and thus lodges an additional protest against the *Lomaria* christening. It is not difficult to raise from spores, and the progeny come, as a rule, peculiarly true, hence most of the forms listed are wild finds. The species is very widely distributed over the British Isles, and attains a high elevation on the mountains. Its chief antipathies are drought, aerial or terrestrial, and hard water.

Name.	Where Found.	Finder or Raiser and Date.	Description.
<i>aitkinianum</i>	Co. Clare	A. Stansfield	A wide spreading ramose procreant
<i>anomalum</i>	Various	Various	Fronds all fertile but little if at all contracted.
<i>anomalum multifidum</i>	Rydal	W. Crouch (1867)	The same crested.
<i>bellum</i>	Hutton Roof	J. J. Jones (1864)	Normal outline, neater cutting.
<i>concinnum</i>	Simons-bath	C. T. Drury (1881)	Pinnae like serrate scallop shells.
<i>confluens</i>	Gap of Dunloe	C. T. Drury (1892)	Frond tips confluent and crispate.
<i>congestum</i>	Wastdale	Crouch (1876)	Dense congested.
<i>contractum</i>	Various	Various	Bottom of frond merely evenly lobed.
<i>crenato-congestum</i>	Patterdale	W. Forster	Pinnae congested, ovate and crenate.
<i>crispum</i>	Langdale	Barnes (1872)	Pinnae broad and crispy.
"	Blawith Moor	Mrs. Wilson (1869)	"
<i>crispissimum</i>	"	Hartley (r.)	A dwarf congested gem.
<i>cristatum</i>	Various	Various	Fronds multifidly crested.

Name.	Where Found.	Finder or Raiser and Date.	Description.
<i>cristatum</i>	Winder-mere	Huddart	Finely crested.
<i>cruciatum</i>	"	Miss Barraud (1892)	Very neatly crested, pinnae sub-crested.
<i>cruciatogracile</i>	Red Bank	Crouch (1865)	Narrow and crested.
<i>cruciatoplumosum</i>	"	Forster (r.)	Very fine and foliose, with cruciate divisions.
<i>flabellatum</i>	Helmley	Monkman (1865)	A fan-shaped ramocristatum branching from base.
<i>glomeratum</i>	"	Mauder (r.)	A dwarf densely crested mass.
<i>imbricatum</i>	Lake Bank	Mrs. Hodgson (1870)	Congested, pinnae overlap.
<i>imbricato-erectum</i>	Todmorden	Halstead	Congested and erect.
<i>lineare</i>	Witherslack	Barnes (1862)	Fronds narrow and almost strap-like, most distinct.
<i>Mauderii</i>	Various	Various	See <i>glomeratum</i> .
<i>multifidum</i>	Various	Various	See <i>cristatum</i> and <i>polydactylum</i> .
<i>multifurcatum</i> (trinevio-coronans)	Langdale	Barnes	Pinnae slender, fronds end in radiate spiky crests; rarely the two basal lobes are lengthened and crested, hence the second name.
<i>paradoxum</i>	Bainsdale	Whitwell (1877)	No beauty but unique, having a third row of pinnae like a perch's back fin.
<i>parviceps</i>	Ronstead Gates	Mrs. Hodgson (1868)	Small stellate crests.
<i>plumosum</i>	"	Airey (r.)	A thrice divided grand form.
<i>polydactylum</i>	Various	Various	See <i>cristatum</i> and <i>multifidum</i> .
<i>ramo-cristatum</i>	Kidwelly	Mauder (1876)	Dwarf corymbiferous crests.
"	Scotland	Forster	Fine foliose ramo-cristate form.
<i>ramo-cristatum</i>	Ireland	Kinahan	Ramo-cristate and twisted, pinnae sub-cristate.
<i>ramo-cristatum</i>	Sinclair Strathblane	Sinclair	A fine flat ramo-cristatum
<i>ramo-multifidum</i>	Crook	Mrs. Hartley (1864)	Ramose and crested.
"	"	Robinson	"
<i>semilacerum</i>	Winder-mere	Airey	Nearly bipinnate.
<i>serratum</i>	N. Wales	J. Cliffe (1865)	Pinnae serrate.
"	Airey No. 1.	Airey	Pinnae deeply cut, parent et plumosum.
<i>serratum</i>	"	(r.)	See <i>plumosum</i> .
<i>strictum</i>	Various	Various	Lower half of frond reduced to round lobes, usually serrate, and pinnae rather narrow.
<i>stricto-concinnum</i>	Crook	Barnes (1865)	Narrowed like <i>concinnum</i> , but less serrate.
<i>subserratum</i>	Todmorden	A. Stansfield (1860)	Pinnae curved regularly upwards, and deeply cut on lower halves.
<i>trinervium</i>	Common in some parts	W. H. Phillips and others	Basal pinnae lengthened and pinnate.
"	Kinkley Moor	Mrs. Hodgson	Basal lobes developed into fronds forming a trident.
<i>trinervio-coronans</i>	"	"	See <i>multifurcatum</i> .

LASTREA CEMULA.

(THE HAY-SCENTED FERN.)

A small grower, with pretty crispy pinnules and a bunchy caudex. One of our prettiest native Ferns in its normal form and evergreen; its fronds, when dying off, if gathered, have and retain a strong scent of Hay or rather Tonquin Bean. The only really good variety is *L. c. cristata*, found in North Devon by W. Gill, and prettily and thoroughly crested.

LASTREA MONTANA (OREOPTERIS).

(THE MOUNTAIN BUCKLER FERN.)

This species is very abundant on hillsides in mountain districts, but is also found in the lowlands in moist, loamy situations. Superficially it resembles the male Fern, but differs in that the pinnae commence quite at the base of the frond stalk with simply rounded lobes; the fronds are bipinnate, of a light green, and if passed through the hand give off a remarkably Lemon-like scent quite peculiar to itself; its spore heaps, too, are

extremely small, and indusia hardly visible. For many years it had a reputation for peculiar constancy, but eventually its versatility came to light, and it far and away excelled the rest of the genus in the sports it yielded to persistent hunters, Mr. J. M. Barnes in particular. The great majority were found in the Lake District, but this is due, in our opinion, to the residence there of more persevering and experienced hunters, as one of the finest crested forms fell to our own lot in Devonshire where it is far less abundant. Varieties in this species are seldom "roguish," as in the male Ferns, *i.e.*, partial and inconstant.

Name.	Where Found.	Finder or Raiser and Date.	Description.
<i>attenuato cristata</i>	Mardale ..	J. M. Barnes (1865)	<i>caudate and crested.</i>
<i>Barnesii</i>	..	..	A most remarkable narrow form, with pinnæ set step fashion on the fronds; one of the uniques when found but subsequently closely matched by others.
<i>angustifrons</i>	Patterdale	G. Whitwell	Similar to <i>Barnesii</i> .
<i>breviloba</i>	Mardale ..	J. M. Barnes (1864)	Pinnules evenly reduced.
<i>angusta</i>	Staveley ..	J. Westlake	
<i>apuaformis</i>	Swindale ..	J. M. Barnes (1865)	Multitud. ramose head.
<i>caudato cristata</i>	Rydal Head	Crouch ..	<i>Caudate, small crests.</i>
<i>caudata</i>	Mardale ..	J. K. Hodgson (1868)	<i>Caudate terminals.</i>
<i>coccinata</i>	Loughrigg	Crouch ..	A form of <i>revolvens</i> .
(See <i>revolvens</i>)			
<i>congesta</i>	Langdale ..	J. M. Barnes (1873)	Densely foliose.
"	Various ..	Various ..	All good forms.
<i>coronans</i>	Langdale ..	J. M. Barnes (1872)	A splendid crested form.
<i>corymbifera</i>	Grasmere ..	J. Garnett	Bunch-crested.
<i>crispatissima</i>	Troutbeck	J. Gott ..	Very dense and crisp.
<i>crispata</i>	Clougha ..	J. Stewart	<i>Crispate.</i>
<i>crispa</i>	Furness Fell	J. M. Barnes (1865)	Undulate pinnules.
"	Bell Coniston ..	Bell ..	" "
<i>crispo angustata</i>	Patterdale	W. Forster	Narrow crisp.
<i>crispo congesta</i>	Coniston ..	J. M. Barnes	Dense crisp.
<i>cristata angustata</i>	..	J. M. Barnes (r.)	Narrow fine crested.
<i>cristato gracile</i>	N. Devon ..	C. T. Drury	Slender and finely tasselled.
<i>cristata</i>	Westmoreland	J. M. Barnes (1871)	Finely crested form.
"	Monmouth	T. H. Thomas	Crested.
<i>curta</i>	Wyresdale	Hartley ..	Fronds erect narrow, very pretty.
<i>curvata</i>	Farleton	J. J. Jones	Pinnæ deflexed, frond attenuate.
"	Knots	(1863)	
"	Garsdale ..	J. M. Barnes (1866)	Pinnæ deflexed, robust.
"	Coniston ..	G. Whitwell	Similar.
<i>decurrens</i>	Garsdale ..	J. M. Barnes	Pinnules decurrent.
<i>grandiceps</i>	..	Barnes (r.)	Heavily tasselled.
"	Martindale	Smithers ..	Branching and crested.
<i>plumosa</i>	Little Lang-T. Airey	dale	True plumosums, grand varieties.
"	Patterfell	G. Whitwell	Foliosely finely cut.
<i>polydactyla</i>	Various ..	Various ..	Terminals many pointed.
<i>ramo-coronans</i>	..	Barnes (r.)	Branched and crested.
<i>ramo-cristata</i>	..	.. (r.)	"
<i>revolvens</i>	..	..	See <i>concinata</i> .
<i>truncata</i>	Many ..	Many ..	All terminals truncate and horned, curious but worth having; should be called "excurrens."
<i>furcillata</i>	Frostrow ..	G. Whitwell	Furcillate tips.
<i>glifera</i>	..	J. Wiper (r.)	Most remarkable form, pinnules deeply incised with long attenuate points, bulbiferous at base.
<i>gracilis</i>	Hawkshead	J. Wiper	Finely incised pinnules.
<i>latifolium</i>	Cautley ..	G. Whitwell	Broad fronded, robust.
<i>reflexa</i>	Coniston ..	J. Steward	Pinnæ like ringlets.
<i>simplex</i>	Mardale ..	J. M. Barnes	Pinnæ simple, resembles <i>P. vulgare</i> .
<i>stricta-Whitwell</i>	Cautley ..	G. Whitwell	Fronds very narrow.

C. T. DRURY.

TREES AND SHRUBS.

THE HAMMOCK UNDER THE OAKS.

WE came home on the 27th of March. It was a dull day, raw and cold, and there were few plants in bloom. Only the early Jasmine greeted us with hundreds of little sunny flowers like smiles, and the graceful Bush Honeysuckles wafted us a welcome even more delightful.

The trees were leafless, and only the grass was green. But we were not disappointed, because we wanted to arrive before Nature's spring opening, so as to miss none of it. For several days it rained soft April showers full of promise. It was exciting to dash out between the drops, and come back with fresh news of bursting blossom buds and growing leafage. Every hour brought new arrivals from the underground railway. Then came a day when the sun shone and everything bloomed at once, or so it seemed. The Almonds, the Nectarines, and the Apricots flowered within a few hours of each other. First the Almonds, then the Nectarines, and then the Apricots.

But earlier than these by half a day were the Plums, a little grove of them, all sprung from one ancient mother Plum to the south of the main building and in front of the kitchen wing. No one knows anything of the origin of this Plum. She is a fair white stranger still, and nameless, as she stands in bridal veil and renewed youth and loveliness every April, bride like, though it is more probably her golden wedding day that she is celebrating now, with all her pretty children and grandchildren clustering round her. Would that it were possible for "mere mortals" to grow old so gracefully.

When my mother came to this place to live long years ago on an April day like this one, and when I was a very little girl, the beautiful Plum tree, then in full vigour of her early maturity, stood as she stands to-day in soft white wedding garments, and seemed to wave us a welcome to the garden, already old. I can just remember the outline of her branches, tossing against the faint blue sky, and how I sat on the ground beneath, to let the Plum snow drift down and fleck with its whiteness the pink cambric frock I wore. In all the years that have passed since then her name has remained a mystery. I once sent some of the bloom of this tree to a noted botanist, but he could not identify it. I only know that it blooms before any fruit tree planted here. It does not bear Plums, though it seems perfectly healthy. Perhaps we shall obtain fruit from the young ones, that are now, some of them, almost as tall as their mother.

Plum bloom fades in a few days, and the bloom of Nectarines, which is similar, shares this evanescence. This, too, has now passed away, while the Almond and Apricot blossoms are still fresh.

A group of all these fruit trees is planted in front of the ice house as a screen. The ice house is parallel to the kitchen wing, and separated from it by the length of the poultry yard. The two Almond trees have very large flowers of bright fresh colour, with deep rose-coloured stamens.

One of the Apricots has blossoms of a pretty shade of bright pink, like the pink of a wild Rose, the other is a different variety with smaller and deeper tinted flowers. The bloom of the Nectarines is pure white. The effect of this group of little trees, all in full flower at once, was delicate and charming.

This is the most enchanting time of the year, the fortnight or so in April, when the trees seem to have foliage of flowers, and the birds choose it wisely for their honeymoon, and sing all day long in fine youthful rapture that they lose too soon.

Oh! to spend one of these exquisite mornings in a Cherry grove in far Japan. Here, in America, we are only tyros in the cult of flowering fruit trees for pure ornament. In Japan they know how to enjoy to the full the witchery of April days. The Cherry blossom is the national or royal flower, and

trees are planted by the thousands, not that their fruit may gratify the appetite, but that their bloom may please the artistic taste of perhaps the most artistic, poetry-loving people in the world. These trees, which bear no fruit, make groups in the parks, are planted along streets and high roads, in all gardens and ornamental grounds, and in the groves that surround temples, everywhere indeed, and in every form, some rivaling the trees of the forest in size, and some dwarfed into tiny house plants grown in fantastic flower pots.

When the Cherry blooms all Japan, from the Mikado down to the poorest peasant, makes holiday, and flock to the parks in gayest attire, light hearted and glad. The Japanese have learnt much from the English, but we of the English race can, in our turn, learn much from these gentle people who enjoy so frankly and simply the good gifts of God.

But to return to Rose Brake, where Nature just now is so lavish of her Crocus gold that she strews it everywhere, on the ground under the trees, studding the grass of the lawn, and forming fairy rings around the Forsythias. Here is wealth indeed! The Forsythias and the Crocuses are in friendly league to repay the largess of the sun in smiling radiance.

Next week we hope to hold our feast of Cherries, and then, every day, there will be a fresh budget of news in the world of flowers.

DANSKE DANDRIDGE.

Rose Brake, West Virginia, April 3, 1901.

PRIVATE GARDENS IN AND AROUND BERLIN.

FROM A RESIDENT CORRESPONDENT.

I HAVE been living for the last two years in Berlin, and I have taken advantage of the fact to make a few general observations upon the private gardens of the city and its suburbs, which I now propose to commit to writing in the hope that they may prove not uninteresting to English horticulturists.

To begin with, I may state that in the city proper there are, owing to the circumstance that the vast majority of the inhabitants reside in flats, but very few private gardens, and the best of these few are those situated in the rear only of the higher class of dwelling "blocks," which, like the enclosed areas in most of the London squares, are intended for the common use of every family whose home is in either of the houses forming the quadrangle wherein they are contained.

The gardens in the "Stadt" enjoyed exclusively by single families are, excepting those belonging to one or two old villas that are still to be found wedged in among some of the great five and six-storey "Wohnhauser," generally very narrow, insignificant little patches—dismal almost as Tom All Alone's—on which the adjacent buildings encroach so closely that one looks up from them to the "little tent of blue" overhead as through a shaft. Paul Heyse gives a true description of a typical patch of the kind in the first chapter of his famous novel of "The Children of the World." As to front gardens, they are almost unknown in Berlin city.

Although the "Stadt" itself is comparatively very poor in private gardens of any sort, the best of those attached to villas and blocks of flats are large, well laid out, and well cared for. Most of them, moreover, embrace several extensive tennis courts and croquet lawns, while some of the older ones contain a good deal of extremely fine timber.

And albeit "Privat Gärten" are rare within the city gates, they certainly cannot be said to be so in the suburbs. On the city's western side, in the beautiful neighbourhood of the "Thiergarten," there are, of course, hundreds of them—and mostly of a very large and lovely description—just beyond its boundary, and, though all the other districts that immediately adjoin it are well nigh as destitute of them as it is itself, in the remoter "Voroerte" one seldom comes across a house that has not a garden of its own. What is more, it is generally a very neatly kept garden. Indeed, although I know my way about all the suburbs, and have made a point of observing what John Evelyn would have called

their "hortulan characteristics" with especial care, I do not remember to have seen a neglected garden in any one of them. The reason I fancy is that, unlike most Londoners in the same position, the majority of Berliners who dwell a little way outside their city do so, not so much because they are forced, as because they are more or less horticultural enthusiasts.

But for this very reason, perhaps, though gardens in the "Vorstaedte" are very tidy, gardening generally in the latter is decidedly amateurish in character. The average Berliner who owns a garden, apparently loves it so well that he likes to look after it as far as possible himself, and calls in professional assistance—as he invokes the aid of a doctor—only when he finds it to be absolutely essential. If he employ outside help regularly he is satisfied with such as he can obtain from one of the many old labouring women to be found in the neighbourhood who make a business of letting themselves out to do hoeing, digging, sweeping, and any other rough horticultural work—cutting grass with the shears included—for remuneration, at the rate of from 2½d. to twice that sum per

he sets up an arbour or a summer-house, or a life-size figure of Mercury, or Ceres, or Diana, or Queen Louise, or the Emperor William I., or Bismarck, or Moltke, or the present Kaiser, or any other diety to whom he may pay homage.

Naturally arbours and summer-houses are particularly numerous in the "Gärten" of "Häuser," which are let in floors, each tenant in a block of flats which has grounds of its own generally requiring a "Laube" for the use of his family, and his family exclusively, so that in the gardens of some of the larger buildings of the kind, such shelters are so many that to economise space they have to be ranged in straight lines along the walls at distances often of not more than a couple of yards from each other. But sculptural decorations of the description I have mentioned are to be found in considerable numbers in pretty well all the "Privat Gärten," and besides them one sees in most of the latter many highly coloured earthenware figures representing "Bergmännchen" or mountain sprites, hares sitting on their haunches, dogs sleeping or preparing to spring and bite, deer grazing or running, lambs gambolling, storks

their arbours as near by preference to the public thoroughfare as possible, and it is surprising to an Englishman how imperturbably they take their afternoon coffee in "Lauben," which are placed in such exposed positions. But real privacy would appear to be their last object in having a garden, and the majority of the gardens in the suburbs of the Prussian capital are confined by iron fences of so light and open a pattern that the owners can get hardly more ocular enjoyment out of them than any observant passer-by.

Another fact that is worth noting in connection with them is that they are usually very unsatisfactorily pathed. Gravel is used rarely, and, when it is employed, is in nine cases out of ten left unrolled and loose, so as to be painful to the feet; and many people prefer a hideous pathing of white and black marble chips. The soil of the district being sandy, however, most local horticulturists use no special material to cover their footways, but allow them to remain as they stand after the grass plots and flower and fruit beds they traverse have been formed. Nor is turf very often to be found in the private gardens of the vicinity. Where

there is a lawn the grass is generally sown afresh every year, and in winter there is consequently no grass in the place where the grass ought to grow, a circumstance that makes a greater number of the gardens look very desolate and uninviting during the cold weather.

In conclusion, I may mention that, although more of the houses in the city itself which are occupied by the working classes boast gardens of their own, each artisan in the "Stadt" can for a very small sum rent a plot of ground for the use of himself and his family in any of the numerous "Garten-colonien" of the locality. These "Gartencolonien" resemble our "allotments," and, being very much appreciated by those for whose benefit they exist, present during the warm months of the year an uncommonly charming appearance, the prettiness of which is much enhanced by the fact that each of the different plots is indicated by a coloured flag.

W. DUNCAN CHILD.
Schöneberg, Berlin.



RHODODENDRON CILIATUM IN THE HIMALAYAN HOUSE AT KEW.

hour. And he is not in the habit of consulting text books. As a rule, he prefers to cultivate his "bit of ground" entirely in accordance with his own whims and fancies. This would be of less consequence if he were invariably a man of good taste in matters horticultural; but as he is not, the results of his wilfulness are, from the artistic point of view, not infrequently deplorable.

One of the foibles to which he appears most subject consists in the desire of having as much path-way as possible, and he has an extraordinary partiality for a serpentine. Hence one may say of his "close walks" what Lord Ogleby, in "The Clandestine Marriage" says of Sterling's, they form a perfect maze, and wind like a true lover's knot—"zig-zag, crinkum-crankum, in and out, right and left, to and again, twisting and turning like a worm, my lord," as Sterling himself less elegantly, but not less graphically, adds.

Like the ambitious Gracechurch Street merchant in Garrick and Colman's delightful comedy, again, evidently deems it "a rule in taste" to have "a church or an obelisk or something to terminate the prospect, you know;" and, consequently, in each corner of his garden, be the latter small or large,

poised on one leg, herons in the act of swallowing fishes, and various other creatures, chosen principally, it would seem, on account of the oddity, if not odiousness, of their appearance.

Some people even go the length of adorning their grass plot with groups of life-sized brilliantly-painted plaster dolls depicting scenes from popular legends. I recall one of these tableaux which represents Little Red Riding Hood—with a wicker basket, containing, among other things, a real beer bottle, on her arm—encountering the wolf on her way to her grandmother's. And this is in a nobleman's grounds. In fact, the love of the kind of "Garten-Schmuck" in question is common to Berliners of every class, and for the care that is taken of it by local collectors it might also have the value of Dresden china. Not only are the figures periodically washed during the spring, summer, and autumn, but in the winter they are either kept indoors or else protected from the frost and snow by wrappings of straw or sacking; so great is the pride taken in them, too, that they are well nigh invariably displayed in places where they may be most easily seen from the street.

Berliners who possess "Garten" also set up

section. Like most of the other Himalayan species, it is a little tender for out-door culture, except in favoured counties, such as Cornwall, &c. As far north as London it lives out of doors, but cannot be called a success. Its proper place is a cold, airy house, with a minimum temperature of 32° and a maximum fire heat temperature of 34°. Planted out in sandy peat in such a house it makes one of the most charming pictures imaginable when in flower in early spring, every branch being terminated with one or more heads of flowers. The plant is tolerably well known with its dwarf, dense, bushy habit, intensely hairy, ovate leaves, and pretty fragrant white flowers suffused with rose. Out of doors the rose colour is developed in the flowers to a greater extent than when the plants are grown under glass.

The subject of the illustration is growing in the Himalayan house at Kew, the group being 5½ feet high and 14 feet across.

W. DALLIMORE.

RHODODENDRON CILIATUM.

THE FLOWER GARDEN.

THE LESSER NARCISSI.

A LITTLE garden of Daffodils is a common enough adjunct to what the papers call a "horticultural establishment," but I know no complete example of a garden of little Daffodils. The lesser Narcissi—a quite considerable series—have in most quarters suffered an unmerited neglect from the position which the Narcissus has now taken as a florist's flower. Robust plants yielding large, long-stemmed flowers of pure or brilliant colouring are those which are in vogue and command the market, and justifiably so. But there are those to whose horticultural affections a species—let the word stand without quarrelling, its current meaning is clear enough and indispensable—appeals more closely than any of its artificial enhancements, and who find greater joy in taming some lowly but recalcitrant alpine than in cramming their borders with all the celebrities of chromolithography. To such I recommend a separate garden of these liliputians.

The most suitable sanctuary will be a spur or minor range of the rock garden, with a small allotment of the flat running into it in bays. If the whole garden is a sunken one for avoidance of wind and conservation of moisture so much the better. The foreknowledge that some of these pigmies are resentful of cultivation and given to evaporate at short notice will only add a sense of distinction to possible success. Nor will the owner of thriving colonies of, say, the Pyrenean *N. moschatatus* regret the antecedent hill for vanished

bulbs, for he will take rank with him whom *Edraianthus pumilio* obeys, and with the lord of ancient flowery thickets of *Lilium Krameri*, if there be such. No little pleasure and interest could be centred here in the earlier spring months before the rush of alpinists, and these need in no wise be ousted for the bulbs.

Their carpet will help to satisfy the most imperative need of the Narcissi, namely, a cool root-run, and to prevent splashing of their lowly bloom. The covering plants should, however, be not too dense or deep-rooting; the grass which in the South of Europe overlies these little bulbs is never of the closeness of our English sward. Even the stems of a choice prostrate shrub such as *Daphne blagayana* will lessen evaporation. It will be an achievement if the cover can be here and there of plants which will flower with the Daffodils and accentuate them by contrasted colour, such as the blues and purples of spring. A memorable object-lesson in this direction was once presented to me in North Italy. Climbing one of the mountains on the eastern shore of Como over against Cernobbio, I suddenly came upon a level pasture of acres of dwarf *N. poeticus*—botanically *N. p. verbanensis*, but by the country folk called more prettily "Madonnette"—thrusting up bud and blossom through sheets of *Gentianella*, a marvel of white and blue. In the same way *Gentiana verna* would meet Narcissi earlier than poeticus. The smaller selections of pallidus *præcox* will have their place in such a garden, and might rise through a ground-work of the old short-stemmed Russian violet, or bulb may consort with bulb.

Iris reticulata makes a still finer association of colour with pallidus *præcox* or *Moschatatus*, and its stout spikes help the Daffodil leaves to cover the bare soil. Some of the Grape Hyacinths, such as the fine variety of *Muscari conicum*, distributed by Messrs. Barr under the name of "Heavenly Blue," provide almost perennial cushions of prostrate foliage. The sight which I once saw in central Italy of yellow Daffodils shining above a stretch of *Anemone appennina* was an emergency which almost justified stopping the train. *Anemone blanda* would give the same effect at an earlier date.

There will, as I have suggested, be problems enough in this bit of garden to add the requisite zest of difficulty. The three main wants of Narcissi at large for their perfection are a cool bottom, abundant moisture during active growth, and sun heat long and strong enough to mature the bulbs. The miniature kinds seem much more exacting of these conditions than their larger brethren, because they come from the most part direct from the southern most extension of the wild area of the Narcissus, where the sun is fierce and seasons sharply defined. They have not, like the garden kinds, been tempered to our English climate, or absence of climate, by mixture of blood and seedling selection. The rock garden lends itself

to these special requirements far better than the flat border or nursery plot. Thus, *N. cyclamineus*, valuable for its distinct form and great earliness, seems to enjoy bog moisture while its roots are in full activity, but a drier soil after flowering.

A plantation might be essayed at the foot of a large sloping watershed of rock face, down which the rainfall would pass to the bulbs when needed, and some simple contrivance of a drain or conduit hidden among stones and plants might cut off the water supply in summer. *Juncifolius*, *triandrus*, and others might have pockets or shelves assigned to them which could be kept wetter or drier by the insertion into crevices or the removal of flat eaves-like slabs above them. Glass panes are too conspicuous, and should be dispensed with if possible. Contrivances of this sort will probably be found helpful, but the art of the competent rock gardener will conceal his art, and the diversity of height, slope, and aspect afforded by well-designed rockwork will effect much without such aids. Shelter from frost and frosty winds can be given better here than on the ground line; it is a mistake to suppose that these bulbs enjoy frost because they are called hardy and are seldom killed by it.

For those who aim high there is *N. monophyllus*, the white Hoop-petticoat, the *ne plus ultra* of difficulty, to omit the two or three almost impossible autumn-flowering species. The "record" for successful outdoor cultivation still remains with the Munstead Garden, where it flowered perfectly at the foot of a hot wall under Vine leaves, which kept the rain from it in autumn. In a cycle of such summers as we have had of late its Algerian home might perhaps have been nearly enough imitated by similar devices, but a long spell of ripening sun heat it must have. Its exquisite flowers, like fairy films of blown glass, are worth any trouble. Bulbs cultivated in Algeria are now obtainable at a small cost, and are much more trustworthy than formerly when collected green. Another *Corbularia* scarcely less beautiful is *Graelsii*, much like the white Hoop-petticoat in form, but of rare and delicate cream colour, faintly tinted with palest citron green. It is altogether distinct from *C. citrina*. The last bulbs I had were given to me by Mr. Peter Barr, who collected them himself; I doubt whether it is obtainable now. The *Corbularias* alone would give uninterrupted bloom from January to May if we possessed even all the recorded kinds, and no doubt many remain unfound. Indeed, the five catalogued by Messrs. Barr almost cover the time, viz., white Hoop-petticoat, early-flowering yellow, lesser early yellow, sulphur, and late yellow. To be effective they should be set in large, close clumps. I transcribe the following observations on *Corbularia* from Mr. (now Baron) Alfred Tait's "Notes on Portuguese Narcissi," written in 1886, as the pamphlet is not generally accessible, and gives valuable indications as to successful treatment:

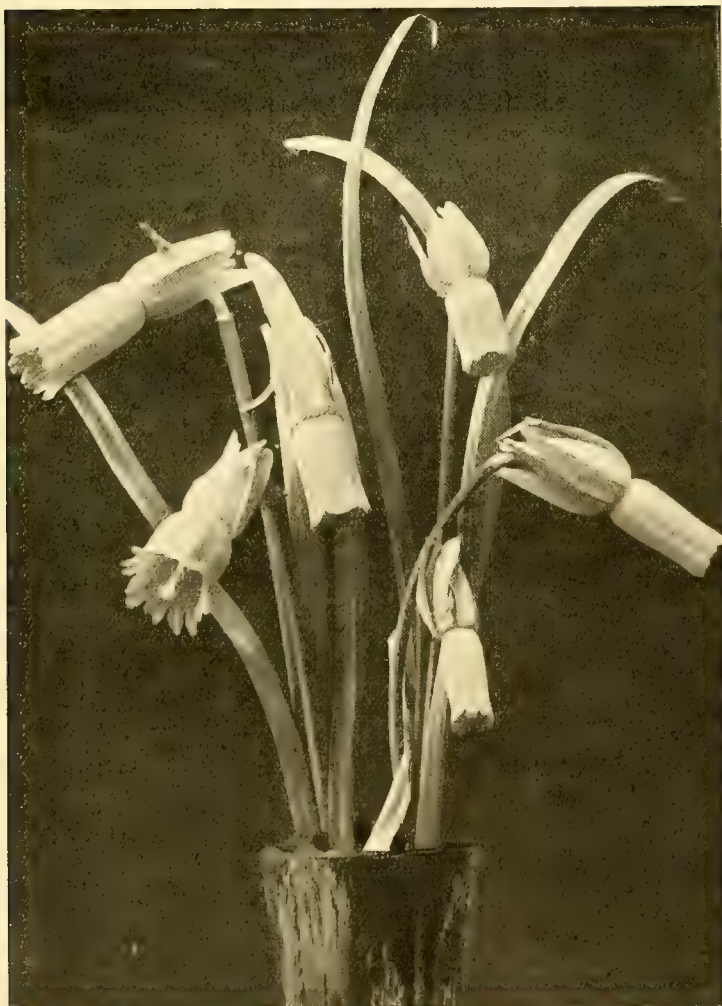
"*Corbularia* (1). Rich yellow. The form found near Oporto, flowering from February 13 to March 23 at an altitude of 20 feet to 100 feet above sea level; soil sandy loam, well drained. In the damper situations the scape and leaves are longer and more erect.

"*Corbularia* (2). The larger yellow form found near Ovar, about twenty miles south of Oporto, flowering March 20 to April 20, altitude 10 feet to 50 feet above sea level; soil sandy alluvial, very wet, and often inundated in winter, and not very dry in summer. It flowers later than any other Narcissus in Portugal, although it grows in hot marshes near the sea, close to rice fields.

"*Corbularia* (3). A yellow form found at Cantanhede, about forty miles south of Oporto, flowering about April 10; altitude 30 feet, in a wet red clay, probably baked dry in summer. This is very similar in form and size to No. 2, but grows in a quite different soil and flowers earlier.

"*Corbularia* (4). *C. nivalis*, flowering from March 1 to May 15 according to altitude, 1,500 feet to 4,600 feet, on mountain ranges in a soil composed of granite and sand and leaf-mould. Flowers paler yellow."

We have much to learn about the forms and habits of the *Corbularias*. The above-mentioned Portuguese kinds cannot readily be identified with



NARCISSUS CYCLAMINEUS.

those at present purchasable, but the hints as to elevation and soil requirements seem to be useful.

Of the hundreds of thousands of bulbs of *N. triandrus* planted since it first began to be brought over in quantity about the year 1884, only a minute percentage have lived over two seasons. It is a lovely plant and deserving of pains; it is doubtful whether it has received the attention it merits for establishing it out of doors in favourable localities. Baron Tait's notes say that it flowers "from February 13 to May 15 according to altitude, which ranges from 50 feet to 3,600 feet, in a rich soil composed of leaf-mould and granite sand." Mr. Barr found it growing "in very hard, firm, fine, gritty soil, sometimes in the narrowest fissures of granite and slate stone rocks." He has also recorded that it appeared to prefer a northern aspect. As to this last proviso it must be borne in mind that constant shade in England is a much chillier condition than in the Spanish Peninsula. I should prefer a sunnier situation, and trust to an overgrowth to check undue evaporation. My notion is strengthened by a pretty drawing in Mr. Oswald Crawford's "Round the Calendar in Portugal," which shows *triandrus* spearing up through a thicket of ordinary wayside growth. But trial should be made of the lesser *Narcissi* in all exposures, north, south, east, and west, and notes kept of their behaviour in each. The larger *triandrus* from the Isles de Glenan off the coast of Brittany is an exceptionally beautiful flower, distinct in form and habit from the type. This certainly should be persistent on the Cornish coast or in similar British climates. I used to flower it to perfection annually in pans from successive sowings of seed, and believe it could be maintained in the same way in a good rock garden. *Juncifolius*, so choice a little flower that an enthusiast confessed to me that he "nearly wept with pleasure" when he first met with it in the Pyrenees, where it abounds, is probably less dependent on sun heat. I have known it to bloom fairly well unmoved for two years in my unfavourable garden, and it should do better on stonework. *Rupicola* is said to have a flatter crown, but I have never received it often enough or in sufficient quantity to test its distinctness.

GEORGE ENGLEHEART.

(To be continued.)

THE INDOOR GARDEN.

BROWALLIA ELATA.

THIS is an old inhabitant of our gardens, and having regard to the ease with which good specimens may be grown in a short time, combined with the many uses to which the plants may be put when in flower, it may be termed one of those plants that should be found in every garden. There are two varieties, one bearing deep blue flowers and the other white. Both are worthy of cultivation, but the blue is most appreciated on account of there being generally a scarcity of blue flowering plants so useful as this. The plant delights in a rich, fairly light, open soil, and when thoroughly established is much benefited by frequent applications of manure water, or other manurial agents given alternately. Propagation may be readily done either by seed or cuttings of the young shoots at any time when required. Seeds may be raised in the first instance, then cuttings may be taken from the plants having the most robust constitution, in conjunction with well formed, bright-hued blossoms, and a healthy stock will be obtained. Rapid growth should be encouraged from the commencement and maintained by keeping the plants near the roof glass in a warm pit or similar structure, where a genial temperature is kept up. Attend carefully to pinching out the points, as they advance in growth, to ensure a stocky habit. This may be performed some three or four times, afterwards allowing the shoots to grow unchecked so that flowers will be produced in plenty. *Browallia elata* may be had in bloom the greater part of the year by propaga-

ting a batch of plants at about monthly intervals and so bring them on in succession as required. As a greenhouse subject it will be found invaluable for associating with other flowering plants, usually grown for the adornment of the conservatory or greenhouse. For room decoration, in disused fire-places, and other recesses the plant is extremely pretty and distinct. In mild districts they are sometimes utilised in summer bedding arrangements, and provided strong plants are available for disposing in the open by the end of June very effective arrangements may be made. Of course, it is essential to gradually harden off any plants before planting out.

H. T. MARTIN.

NOTES ON NEW AND CHOICE DAFFODILS.

It is of the newer kinds at Messrs. Barr and Sons' nurseries, the novelties of the race, that I wish to



NARCISSUS CYCLAMINEUS HYBRID.

call attention, as they were not seen by many this year, even by those most regular at the spring exhibitions. In the

POETICUS GROUP

three kinds I note as very superior in every way, viz., *Cassandra* (Engleheart), a pure and handsome flower 3 inches across, and largely partaking of *Poeticus poetarum* in its whiteness and form. It is most excellent. Another very fine thing is *Almira* (Barr); this partakes of the old *N. poeticus recurvus* in some way, but is, of course, vastly superior, both in its purer tone, the well-imbriicated and broad overlapping segments, and not least in the fine distinct flatish corona. This is a sturdy, free, and vigorous sort, with great promise from the garden standpoint. And, thirdly, *Glory* (Barr),

which in brief is a larger, purer, much whiter, and more solid-looking *Poeticus poetarum* kind. It is a large flower, and one of exquisite purity also. It is a most telling kind in the bed of these sorts. In the

LEEDSI SECTION,

which is already abounding in chaste and beautiful kinds, there is a sweet addition in *Maggie May* (Edmunds). The chief feature of this kind is the greatly enlarged and highly-crempled cup, the latter quite 1 inch deep and nearly $1\frac{1}{2}$ inches across at the margin of its very distinct expanding crown. It is a quite white flower, very delicate, and the most distinct of all its tribe. Then turning to the

INCOMPARABLES

Lobster (which I believe is also an Engleheart seedling) quickly fixes the attention by the very fire of its crown. I believe, too, this is said not to burn in the sun; so many of these highly-coloured crowns dislike strong sunshine. At any rate, here it is good and distinct. Of course, there is *Gloria Mundi*, rich, large, and conspicuous, a more expanded and broader crown than *Lobster*, and possessing broader and fuller yellow segments. Indeed, this kind will require some beating.

TRUMPETS.

Ray Smith (De Graaff) is simply a rich yellow *Priniceps*. This, too, should be a useful garden plant and forcing kind. In the whiter trumpets the inimitable *Mme. de Graaff*, with the crown well reflexed, is always a notable flower, not yet equalled by any in whiteness or size, though the newer *Peter Barr* and some others are of good size and form, too. Then there is *J. B. M. Camm*, another almost unique kind, so broad, so handsome, and so vigorous, and if it is removed from the pure whites by the biscuit-toned trumpet, this but gives it one added touch of beauty to a highly-finished flower. It is, indeed, a gem in its way, and just the class of flower that stands all sorts of tests, that of the weather included. No one could make a mistake in selecting this for any garden; it is simply superb. Then presently one meets with that novelty among bicolors called *Apricot*, in which the crown has opened out a possible new line for the Daffodil of the future. At present this is as much as may be said, since *Apricot* is not wholly good, i.e., the segments require improving materially.

All these are good and choice in their way, some, of course, quite unique; but these by no means complete the list, and we come to yet another that may be a mixture of *Leedsii* and *Incomparabilis*, and is called *Lucifer*, no doubt because of its intensely coloured cup or crown. This is not merely suffused with that rich scarlet orange tone, but fully covered, and uniformly so to the base. Not far away stood General Roberts, recently exalted to great honours by the "F.C.C." of the Royal Horticultural Society. And, indeed, it is first class in every way, when we say it surpasses the *Emperor*, which it more nearly resembles. Indeed, it would not be amiss to call it a refined *Emperor*, and rather softer in tone. It is a most handsome trumpet Daffodil of quite the largest size. Larger, perhaps, than the last is *Big Ben*; but here we think size is the chief attraction—in short, there would appear a leaning towards *Glory of Leiden* in the variety, which is of giant size throughout.

But even these are as a fragment of what is here, but of the hosts of beautiful and shapely bicolor kinds, that remarkable flower *Weardale Perfection* must be named; and two other graceful things are *Lady Helen* and *Mrs. Walter Ware*, a beautifully finished flower that size has not spoiled in the least degree. Such as these will doubtless long be cherished by the gardeners of the generations to come, if by that time they are not tired of the hosts now being handed down to them by present day admirers of the race.

E. H. JENKINS.

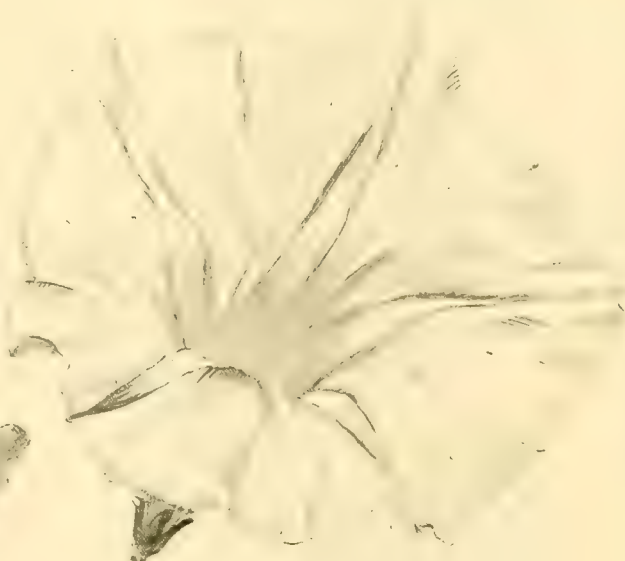
The Campanulas.—In reply to several correspondents re the continuation of these articles, we shall publish shortly the remaining notes about the family with illustrations. Their preparation has occupied much time, hence the delay.

AN ARTIST'S
NOTE-BOOK.

IPOMÆAS.

ALTHOUGH more than 400 species of *Ipomœa* have been described at various times, many of them having been known for upwards of half a century, and a large number bear flowers of a very showy nature, a few species only find a place in gardens,

and these few are not grown on anything like a large scale. As long ago as 1773 *I. Bona-nox*, one of the very best of the ornamental species, was introduced, and from that time until the present additions have been continuous, one of the most interesting species of the genus coming to light in the arborescent *I. wolcottiana* ten years ago. With a few exceptions the genus is a twining one, the majority of the species having scandent or twining branches. In some instances the stems are perennial and woody, in others annual, springing from a thick, fleshy, tuberous root-stock, and in others, again, they are purely annuals. The flowers in most cases are similar in shape to the common Bindweed, and are white, pink, lilac, scarlet, purple, or sometimes yellow in colour. They vary in size from half an inch or less in diameter to upwards of 4 inches, and are borne singly or several together in cymes. The more showy species, whether hardy or tender, are well worthy of cultivation, the stove or greenhouse species being well adapted for training on the roofs of those structures, while the hardy ones are good subjects for covering walls, fences, posts, or other things. The majority are quick growers, speedily making large plants from seeds, cuttings, or layers. In addition to many of the species being ornamental flowering plants, several possess valuable economic properties, as instanced by *I. Batatas* (the Sweet Potato of the tropics) and *I. Purga*, from the roots of which jalap is obtained. A fairly rich soil, composed of good fibrous loam and peat in equal proportions, to which a fair quantity of sand has been added, will be found a suitable compost for most of them, and, in the case of the stronger growers, a border will



IPOMÆA RUBRO-CÆRULEA.

(AN ANNUAL SPECIES.)

(From a drawing by H. G. Moon.)

be found preferable to pot culture. Of the many species, the following are showy and useful:—

I. Batatas (Sweet Potato).—A scandent-habited perennial with slender stems, entire or lobed leaves, purplish flowers 1 inch or more across, and thick, fleshy roots. It is widely distributed in the tropics, and has been in cultivation for upwards of a century.

I. Bona-nox is a Tropical American annual plant with twining stems, large, heart-shaped leaves, and lovely, large white flowers, with a long, narrow tube. Seeds sown in March and grown in a sunny position in a tropical house will flower well from the end of June onwards for six or eight weeks. It is one of the most ornamental species. It was originally introduced by the Earl of Bute in 1773.

I. digitata makes a handsome plant for the stove. The base of the stem becomes woody, and from this strong shoots grow annually, which produce pretty, digitate leaves and cymes of large, lilac-coloured flowers in profusion. It requires a good root-run, and should have a thorough rest in winter. It is widely distributed in the tropics, and appears to have been introduced to British gardens through the Glasgow Botanic Garden in 1837.

I. Horsfallii.—This is a West Indian plant, and possibly the most decorative of all the cultivated species. Seeds were originally introduced by Mr. Charles Horsfall, and flowers were produced in his garden for the first time during the winter of 1833-34. It is a shrubby twiner with deep green, glossy, five lobed leaves, and bears large clusters of rich, rose-coloured, fleshy flowers $1\frac{1}{2}$ inches across, during the three months of midwinter. It requires a tropical temperature, and is best planted in a border and trained to a sunny portion of the roof. It is very vigorous, and quickly covers a large space, but is easily kept in bounds by an annual hard pruning after the flowers are over. It is difficult to root from cuttings, but may be increased by layering. There is a variety—*alba*—with pretty white flowers, and a large-flowered, rose-coloured variety called *Briggsii*.

I. Kerberi is a South American plant, with cordate leaves and clusters of scarlet flowers.

It is said to make a very good outdoor plant in the warmer parts of South Europe.

I. pandurata, a North American species with tuberous roots and long, twining, annual stems bearing heart-shaped leaves and large white, purple-throated flowers, is hardy in the warmer parts of England, and is a useful plant.

I. Purga (the Jalap) is a warm house evergreen climber, with pretty purplish flowers; a native of Mexico.

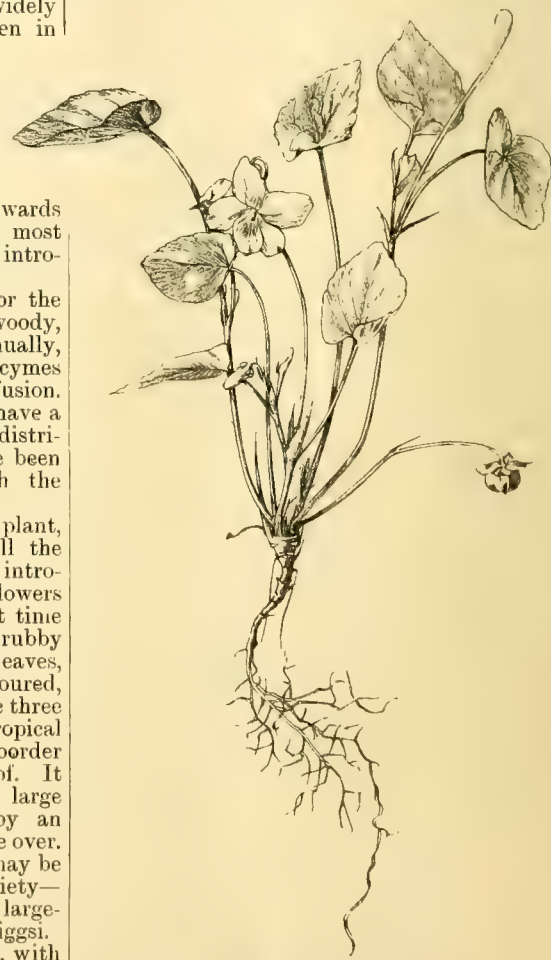
I. purpurea is a free-flowering, hardy annual from Tropical America, with purple flowers. Seeds sown in March in heat and planted out in May make large plants by the end of June. There are several varieties with white or pink flowers.

I. Quamoclit forms a dwarf, elegant plant 5 feet or 6 feet high. It has pinnate leaves and scarlet flowers. It is a native of the tropics and requires stove culture.

I. rubro-cœrulea is an annual from Mexico. The flowers are blue, with a reddish tinge, and are produced during late summer. It is best grown on stakes or a short pillar in a sunny place in a warm greenhouse.

I. wolcottiana.—An interesting species on account of its arborescent habit. It was found by Dr. Palmer in Mexico, and was put into commerce about ten years ago. Naturally it makes a bushy tree 20 feet or 30 feet high, with a large head of pendulous branches and a trunk 1 foot or more through at the base. It is deciduous, the leaves being heart-shaped, acuminate, and glabrous. The flowers are small and white, with a yellow shade in the throat.

I. Woodii.—This is one of the newer intro-



VIOLET SEEDLING. (From a drawing by Miss Charters.)

ductions, having been discovered about ten years ago in Zululand by Mr. Medley Wood, the curator of the Durban Botanic Garden. He describes it as making woody stems 40 feet long. It has handsome, heart-shaped, purplish leaves and bell-shaped, rosy purple flowers.

W. DALLIMORE.

SHORT STUDIES ON PLANT LIFE.—X.

VIOLETS.

HOOKER in his "Student's Flora," recognises seven species of *Viola*, the seventh being the Pansy (*V. tricolor*), and of the other six the Dog (here illustrated) and the Wood Violet have varieties.

Unlike the Sweet Violet, the Dog and the Wood Violet have no runners, and should be regarded as the same species. This difference is correlated with the fact that the white *V. odorata* bears its cleistogamous* buds on the runners below the leaves, the others have them, especially the Wood Violet, all over the plant.

The ordinary flowers, at least of *V. odorata*, rarely set seed in this country; but I have known the white Violet do so by self-fertilisation. The stigma is strongly curved upwards (as the flower is inverted), so the pollen falls directly on to the stigmatic orifice. The unopened buds, which appear after the usual flowers are over, set an abundance of seed by self-fertilisation.

These little buds consist of a calyx usually without any corolla, or at least only rudiments of petals, five perfect stamens and a pistil. The five anthers are pressed down upon the stigma, and the pollen tubes enter it while the pollen grains remain within the anther cells. These do not open by slits, but the tubes issue by boring through the end of the anther cell, enter the stigma, and so fertilise the ovules within the ovary.

The presence of cleistogamous buds is not confined to England, for they occur on North American species, so that it must be a very ancient contrivance, established before the genus *Viola* had differentiated into species and became spread over the world. Climate acts upon these buds, for in warmer regions not only do the ordinary flowers of the Violet set seed, as in Italy, but the buds, which are cleistogamous here, often become perfect flowers in South Europe. I have collected them, *e.g.*, in Malta.

That the perfect flowers of Violets, though specially adapted to receive the visits of insects, should fail to set seed is nothing uncommon, the reader has but to think of Orchids. By far the majority of these cannot possibly set any seed without the aid of insects. It is the self-fertilising Bee Ophrys and some cleistogamous species only which set seed in profusion. The details of adaptation in Violets consist of an irregular corolla, the front petal being spurred for collecting the honey secreted by two tail-like appendages to the front stamens, the three posterior stamens having none. The purple petals are ornamented with golden streaks or guides to show the way to the honey.

The stigma resembles a bird's beak, so situated as to pick up the pollen deposited on a bee, which has already collected it from a previously visited flower. Yet, for all this elaborate machinery, no result usually follows. The setting of seed is deputed to the self-fertilising buds, which attract no insects whatever.

The Pansy has no cleistogamous buds, but

without calling in the aid of insects to help them.

G. HENSLOW.

AN ANGLE OF DRY-WALLED TERRACE.

ALWAYS of the highest importance in our gardens, and year by year improving, are the



GROUP OF PYRUS JAPONICA AND VARIETIES IN ANGLE OF DWARF DRY-WALLED TERRACE.

several varieties with very small, pale coloured flowers are but little attractive and have got over certain difficulties of structure, which exist in the larger flowered kinds, preventing a flower from fertilising itself; so that the smaller-flowered sorts are able to set plenty of seed,

old and new kinds of *Pyrus japonica* and its allies. Formerly one saw the rosy red *P. japonica* fairly often; sometimes trained to the side of a cottage porch or wall, sometimes as a free flowering bush; in loamy or calcareous soils the best thing of its time in the garden.

* The word "cleistogamous" means concealed unions.

Later came the fine white *P. j. nivea*, followed by a number of tender colourings of pale rose and tints like Apple blossom, and the splendid red kind raised at Knaphill. Later still we have had good things derived from *P. Maulei*, the flowers smaller, but making up for less size by their extreme profusion and by the autumn beauty of the bright yellow fruit; these also are now in many fine colourings, thanks to the good work of nurserymen both home and foreign.

The illustration shows a group of these good small shrubs clothing the angle of a dwarf dry-walled terrace, their close growth spreading and arching, showing in nature all the more distinctly for the very different way of growth of the background of tall Birches.

THE FRUIT GARDEN.

FIGS IN POTS.

CULTURE of Figs in pots is not a new idea: the system, however, is well worthy of greater extension. It has much to recommend it as contrasted with the planting-out method, more especially for early and late forcing. Pot culture is conducive to fertility in a marked degree, as compared with trees that have an almost unlimited extent of border for root action. True, trees that are confined within limited borders are, on the whole, quite satisfactory; it takes longer, however, to bring a trained tree into a fruiting state than it does a pot-grown example. The vigour of Figs, when not restricted, or only partially so, at the roots, is well known. By adopting the pot system this is greatly modified and altered, so much so in fact as to render some varieties almost unrecognisable by their growth. Larger fruits are, as a matter of course, produced upon planted-out trees, but I have yet to learn that these are always the best. Quantity and quality combined can be obtained from those grown in pots, while there is not the same probability of an excess at any one time and scarcity at another.

If the culture of Figs in pots be adopted for early and late forcing as well as for the main crop, it will be found to answer admirably. By this method the glass given up to trained trees upon the roof will be at liberty. If the house or houses be lean-tos or three-quarter spans, the back wall can be covered with trained trees and the rest of the space devoted to trees in pots. The dense shade produced by Figs next the glass precludes any profitable use being derived from the rest of the house. That Figs can, in general, be successfully grown in pots has been proved at Chiswick, where no such results as are now obtained could be secured if the space at disposal were given up to trained trees rather than bushes as at present. The Chiswick collection of Figs has done more, in my opinion, than anything else to popularise the culture of the fruit in this country.

EARLY FORCING.

I was induced to adopt the pot culture of Figs in order to prolong the season. First, by early forcing, so as to have ripe fruits early in March; and, secondly, by retarding the late kinds, in order to extend the season of ripening in the autumn and into December. It is thus possible to have ripe Figs for nine months in the year, trained or planted-out trees taking the mid-season. For first early forcing the best variety is without any question, in my experience, the Fig known as *St. John*, which for all practical purposes is identical with *Pingo de Mel*; where the one is grown the other is not required. The value of these Figs lies in the certainty with which they carry their first crop, or, in other words, the crop upon the wood of the previous year. This is a decided advantage and a great point in the gaining of time. On the other hand, the second crop is not nearly so good, but taking into consideration

the value of the first crop, the one following is not of so great importance. The *St. John* Fig is an excellent example of the advantages derived from pot culture *versus* the planting-out system. It is, when not restricted at the roots, an extra strong grower, so much so as to prejudice its reputation for being a good cropper. In pots it bears most abundant crops, which require thinning in order to secure fruits of good size. *Brown Turkey* and *White Marseilles* are capital varieties for succession. Our plan is to start the first early batch of *St. John* or *Pingo de Mel* about October 20, or at the latest by November 1. These will ripen their fruits from the middle to the end of February. Later batches continue the succession until about the end of April, when trained trees can be had in good bearing. No variation is made in respect to temperatures from what obtains in other systems of forcing the Fig. Bottom heat is supplied by means of leaves; no manure is added to the leaves for fear of an excess of heat. The bottom heat ranges from 70°, 75° to 80°, being maintained, if need be, by hot-water pipes. The moisture arising from the leaves dispenses to a considerable degree with a liberal use of the syringe; it is not well to allow the young foliage to remain wet at night, otherwise it will become too flaccid during the dull and often sunless weather of the winter season. The night temperature at the time of starting is about 50°, rising 10° and 15° during the day; this will suffice until the young foliage and fruits are well advanced. A steady increase is given, but not beyond 65° at night, until the fruits are swelling for the final stage; then another increase is given—say, 68° to 70°. A corresponding increase by day follows as a matter of course. The syringe should again be used cautiously when the fruits are ripening, especially in the case of *St. John*, which has a thin skin. When the wood is well ripened and no more fruits are forthcoming, the early forced bushes are taken out of doors after a gradual hardening off, or, if too early for full exposure, are removed to a cooler house. These early ones are safe out of doors in June, a sunny position being finally the best for them. The roots will frequently have extended beyond the pots into the leaves, but the check given to the plants will not be of any particular moment.

LATE FORCING.

The treatment accorded in this instance varies somewhat from that given to the early forced lot. These are kept cool, so as to retard the growth as much as possible. By the end of March or early in April there will be signs of returning vitality, when a portion of the stock should be placed under more favourable conditions as regards growth—a late vinery, for instance, just closed, or any other house where somewhat similar conditions prevail. It is not desirable to excite the growth too much thus early, nor until room can be found to accommodate the plants. Cold pits or frames even will answer for some little time. Our plan is to work the various batches of late Figs through the orchard houses as the forced trees go outside, or through the Strawberry houses meanwhile. For some weeks, however, it is possible to keep them in cold pits with just sufficient protection to keep off frost. A free growth is encouraged during the season by closing early and by generous atmospheric conditions, more moisture being given to these than to the early forced stock. It is essential to avoid a starved or stunted growth, some of the best and certainly the most useful fruits being taken from the young wood. Overcrowding in every instance should be studiously avoided, there should always be a free play of air between the plants. The shoots are kept pinched at the fourth or fifth joint; this applies equally to all of the stock, whether early or late. Some varieties do not make shoots of any great length under pot treatment, remaining more sturdy and compact in habit. Some again may not show for fruit so readily as others upon the young wood. These may be forced into pushing forth their fruit by rubbing out the young points of growth as they successively appear. Some varieties also differ in their tendency to split when the fruit is ripening. For instance, *Negro Largo* rarely ever

splits a fruit; hence this and similar varieties will always bear more atmospheric moisture at that stage than will *Nebian* or *Violette Sepor*, both of which are fine Figs. When the tendency to split becomes at all serious our plan is to sever the fruit partially at the stem rather than keep the plant too dry and thus cripple the later fruits. During the summer no fire heat is needed for the late Figs, except when it is dull or rather chilly in the morning, as it was, for instance, for a time in August of last year. Unless it be quite warm it is best to employ fire heat onwards from the beginning of September, in a moderate degree at least. What has to be aimed at is to avoid a check such as will cause the foliage to fall prematurely. When this occurs, the fruits, as a matter of course, suffer also. If kept too dry at the roots, if attacked by insect pests, or if a chill supervenes, this will happen. As these late Figs cease to be productive they are transferred to a cooler house, such as a vinery, where, with a slight warmth for a short time and ventilation, they become sufficiently hardened to stand in a cool house where the frost is excluded. It is not advisable to expose them to direct frost, although a few degrees would not injure them.

POTTING.

We treat our Figs in pots practically the same as the other fruit trees so grown, viz., repotting every season. The early forced ones should, if possible, be potted in August or early in September, leaving them still out of doors until required for starting at the end of October. The late Figs, on the other hand, are potted as they ripen off during the winter, but, as just stated, these are still left indoors. When first starting with Figs in pots I was advised not to pot annually, and that by more than one grower. We find, however, that it is beneficial to do so. It does not by any means follow that larger pots need be used. This is only done when extra vigour is indicated. By reducing the balls it is nearly always possible to keep to the same size of pot for at least two or three seasons. If potted into larger sizes too frequently, they become more unwieldy, besides which there is more liability to become ultimately unhealthy at the roots. Fresh soil of the right kind supplied to the plants in this annual potting is much better than any excess of animal or artificial manure, minus the potting. We pot as firmly as possible, after having carefully reduced the old ball so that the fresh soil can be worked around between the ball and the pot without any injury to the root. It is well to note that the balls are not too dry.

SOIL.

The Fig thrives well in a calcareous loam; hence where this is not obtainable it becomes all the more necessary to add something like old mortar rubble. This not only keeps the plant supplied with a requisite food, but also assists in keeping the soil open or more porous. Such loam as that from Banstead, in Surrey, needs to have another quality added to it, such as a tough fibrous loam that will not in process of time become too close. This is our plan; to it we add old mortar or lime rubble, worked down through a half-inch sieve or something approaching it in size of mesh. Decomposed manure, such as that from a Melon bed, with an equal amount of leaf soil, makes an excellent addition. We do not add any artificial manures at this stage, but prefer to leave their application until the fruits are showing, and then even they should be sparingly used, a pinch between the finger and thumb being ample for one application. This may alternate with liquid manure made from fresh horse manure rather than that from the cowyard. Once a week for each is ample.

TOP-DRESSING.

We attach considerable importance to this method of supplying additional nourishment to the plants when they have already filled their pots with roots and in time to render aid to them for fully developing their fruits. This is composed of similar soil with rather more manure added to it. In applying it, room around the stem should be

left for watering, while it must be pressed down firmly. The roots will quickly find this out and at once assimilate it.

WATERING.

When growing Figs in pots see to it that they are well supplied with water. If allowed to become dry, so that the foliage droops, they must subsequently suffer.

VARIETIES RECOMMENDED FOR POT CULTURE.

The varieties that I recommend for pot culture are as follows: For first early forcing, St. John or Pingo de Mel, which will fruit equally well as the late varieties in pots of corresponding size. If grown at the start in 6-inch or 8-inch pots a good return may be had. Brown Turkey will be a sound succession, but it must be started at about the same time. Then White Marseilles will follow. For the main crop repeat the two last-named and add Bourjassotte Grise with Violette Sepor. For late forcing Negro Largo is one of the very best; it can be relied upon until the end of October. The next is Nebian or Grosse Verte, which is at its best during September and October. Another good late Fig is Bourjassotte Noir, which crops well and does not split its fruit. The latest Fig of all is D'Agen, which we kept last year until Christmas Day; it is likewise of most delicious flavour. As a delicacy I can strongly recommend White Ischia, and I have no doubt whatever that both the Black and the Brown Ischia are equally as good. The White Ischia is a most abundant bearer and of delicious flavour; it is better grown as an autumn Fig than for early forcing. I find also that Angelique is best under similar conditions. Large Black Douro is an excellent autumn variety, somewhat flat in shape, very dark in colour, and most prolific; it is not so generally known as it deserves to be. If I were confined to six varieties I would grow St. John, Brown Turkey, Bourjassotte Grise, Negro Largo, Nebian, and D'Agen. This list includes both early and late varieties. JAMES HUDSON.

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NURSERY GARDENS.

MESSRS. RICHARD SMITH AND CO., WORCESTER.

ALTHOUGH the nursery grounds of Messrs. Richard Smith are, of course, primarily and chiefly associated with the culture of hardy evergreen and deciduous trees and shrubs, alpine and herbaceous plants, to which we hope to be able to fully refer at a later season, there is yet a great deal to interest one at the present time in the representative collections of indoor plants there cultivated.

The greenhouse, always kept bright with seasonable flowering plants, and of which we are able to give an illustration, is now full of unusually interesting flowers. Conspicuous are the pendent scarlet racemes of *Clianthus puniceus*, the Glory Pea of New Zealand, produced by good pot plants, well suited for planting out in the greenhouse. This *Clianthus* succeeds far better when treated in this way than if continually grown in a pot, and a finer creeper for the conservatory or greenhouse could not be desired. *Genista racemosus* and a variety called *elegans*, of looser habit and less compact flower racemes; *Acacia Drummondii*, with its curious pendent heads of bloom; *Acacia caudata*, one of the most effective of all, bearing

tiny whitish flowers, clustered around long wiry stems; and Azaleas in great variety, are well represented. *Boronias heterophylla* and *megastigma*, indispensable in the greenhouse in spring-time, are also here. Those who do not possess the first-named, that bears numerous small bell-shaped blooms of a beautiful crimson-lake in colour, are without one of the very best early-flowering cool house plants. A dwarf heath-like plant, known here as *Tremandra ericeifolia*, is particularly pretty; the light and delicate foliage forms a pleasing environment to the beautiful rose-lilac coloured blooms. The plants shown in the foreground of the accompanying illustration are those in question. *Diosma capitata*, *Brachysema acuminata*, and *Chorozemas* in variety are also worthy of note.

The collection of warm house plants includes many notable examples of some of the best varieties of *Dracenas*, *Palms*, *Crotons*, decorative *Asparagus*, *A. Sprengeri*, *A. decumbens*, *A. verticillata*, &c.; a good collection of Ferns, notably a splendid lot of *Adiantum tenerum*, *Farleyense*, and *Davallia bullata*, the rhizomes of which are fastened to hanging baskets of various designs, circular, half-moon, ring-shaped, and so on. When the Ferns are in full beauty, the baskets become completely covered and form very pretty objects. It is yet too early to see at their best the splendid specimen *Clematis* that Messrs. Richard Smith invariably exhibit at the Temple Show, but these, together with thousands of smaller plants, give one some idea of the extent to which they are here grown and with what marked success. Just at the entrance to the nursery there is a large circular bed planted with *Clematis* Jackmani and one or two of the best varieties. A light wooden trellis covers the bed, and to this the plants are trained, with the result that in summer it is simply one mass of flower.

Of all the evergreen shrubs that Messrs. Smith now have in their cool houses there is none more striking and distinct than *Euonymus latifolius albo-marginatus*, perhaps sufficiently well descriptive. The variegation is remarkably pretty, the colours being so distinct. Tea Roses in pots are grown in large quantities, and there are also several specimens planted out in cool houses that have

attained to a remarkable size and vigour. *Maréchal Niel* and *Perle des Jardins* (the latter is thought very highly of here) are two of the best, and produce an immense number of flowers. Curiously enough these plants have quite a restricted root run. In these notes we have not been able to do more than attempt to give some idea of but one aspect of Messrs. Richard Smith's establishment, and that perhaps a minor one, yet without doubt the most interesting at this early period of the year. Reference to the more extensive portion of the Worcester Nursery, where are cultivated the hardy evergreen and flowering shrubs, herbaceous, and alpine plants, may be left over until a more propitious season of the year.

[This interesting nursery is very beautiful just now with flowering trees and shrubs and alpine plants in bloom, as some weeks have elapsed since these notes were written.—Eds.]

AMERICAN NOTES.

NOTES FROM NEW JERSEY.—A DISASTROUS WINTER.

SPRING is with us again, according to the calendar, but even at this late date (April 26) there is little sign of growth. Nor can we as yet fully estimate the tribute claimed by a winter loth to pass away, less rigorous in extreme cold than many that have preceded it, but sadly disastrous beyond all previous experience by reason of certain conditions of weather. The early winter was dry, and through February and March high and cold winds prevailed, with much less than the average snow-fall. The effect upon evergreens is most marked. Fine *Rhododendrons* that have withstood the rigours of a score of previous winters are as if scorched by fire. Even our native *R. Catawbiense* has not escaped. I saw a large breadth of it last week in a Philadelphia nursery without a green leaf, and, worse than this, in the same place there were 25,000 dead Hemlock Spruce. On Long Island, too, a few days back, I saw trees 50 feet high of our native White Pine (*Pinus Strobus*) as brown as though a fiery blast had passed through but not consumed them. The like has rarely been witnessed. It is attributed to the long-continued



VIEW OF A HOUSE OF GREENHOUSE FLOWERS IN MESSRS. SMITH'S NURSERY AT WORCESTER.

high cold winds causing excessive evaporation for a period of about six weeks. The worst of calamities, however, leaves us wiser in some respects, and in surveying the wreck some surprises are encountered, one especially proving the extreme.

HARDINESS OF AZALEA AMOENA AND A. INDICA ALBA.

I was reading a note in a recent number of THE GARDEN, which claimed for *A. amoena* greater hardiness than it was generally supposed to possess. It is hardy enough here, and I know of great plants 6 feet in diameter that have been twenty years or more in the open garden unharmed by a temperature of 20° below zero. Now it has come through an unusually severe ordeal. On a lawn in a garden in the suburbs of Philadelphia, and exposed to the coldest quarter, I saw two fine specimen plants, one of *A. amoena*, the other of *A. indica alba*, both fresh and green with flower buds ready shortly to burst into a sheet of bloom. On the same lawn *Rhododendrons* were brown. Our native *Holly* has suffered with the *Rhododendron*, but the European Box has come through unscathed, and from henceforth planters will treasure this fact in mind. *Mahonia Aquifolia* is a sorry spectacle, but *Mahonia japonica* is fresh, green, and quite unharmed. The entire absence of broad-leaved evergreens makes our garden plantings look very thin and bare all winter, but we have compensating pleasures, for our

FLOWERING SHRUBS

are incomparable, so profusely do they bloom each year, therefore we plant them by the thousand. The first and foremost in the gay procession is *Forsythia Fortunei*. The Golden Bell, as we call it here, is an apt name, for glancing out of the window I can see it brightly effective on a hillside in the park, two miles away, as yellow as a mass of Broom in England, which is too tender for us. I wonder why one always sees the *Forsythia* against a wall in English gardens. Plant a mass of it somewhere and let it alone, and it will reveal much additional beauty. The first of the *Magnolias* to bloom is *M. stellata* (or *halleana*). It is a gem, dwarf, and of bushy habit, with large semi-double pure white fragrant flowers, which cover the bushes. *Berberis Thunbergi* is another shrub we plant in big masses. It has many aspects of beauty, and is never devoid of charm, but just now it is quaintly effective with last year's fruits still of a bright crimson, in contrast to the tender pea-green budding growths. Among hardy flowers we have nothing yet beyond a few *Scillas*, *Chionodoxas*, and *Grape Hyacinths*, which have held their own among the shrubs; and every year they greet us as the first harbingers of returning spring.

Madison, N.J.

A. HERRINGTON.

MISCELLANEOUS.

THE HEATING AND VENTILATING OF HOT HOUSES.

By MR. A. DONALD MACKENZIE.

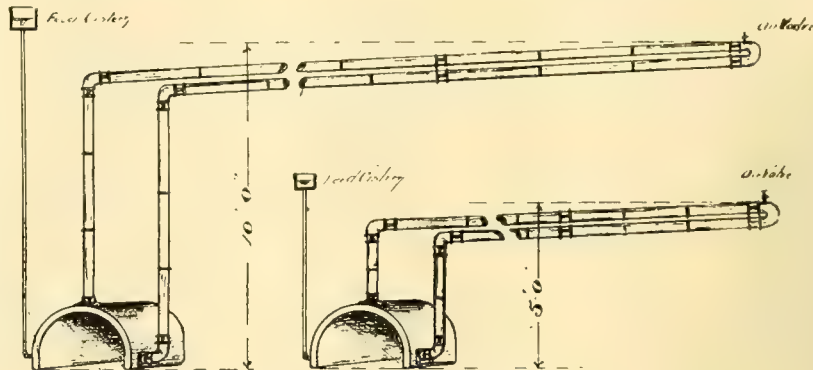
WITH the enormous increase in the prosperity and wealth of the country during the last fifty years, hot houses for the cultivation of fruits and flowers have increased in a full proportion. The maintaining of an equable temperature in such houses when the outside temperature varies sometimes as much as 20° to 30° in twenty-four hours is not without difficulty.

The means used to accomplish this is in nearly every case now hot water circulating in pipes; the days of the old brick flues have gone.

The theory of the circula-

tion of hot water in pipes is very interesting, for we are presented with an apparent anomaly by the rapid rise of the water in the flow-pipe, apparently against the universal law that water flows to the lowest point—finds its level. But this is not the occasion for discussing this aspect of the question to any great extent. In passing, however, I may be allowed very briefly to draw attention to the cause of the circulation in a hot water apparatus.

Fig. 1 represents an ordinary apparatus with a saddle boiler, to which is attached in the ordinary way a flow- and return-pipe; the flow in all cases and in all classes of boilers must be from the highest available point of the boiler, and the return should rejoin the boiler as near the bottom as practicable. There is thus an endless pipe, the boiler being practically a part of the pipe enlarged and shaped for the application of heat. When such an apparatus is filled with water through the cistern and feed-pipe it is ready for use. When heat is applied to the part of the endless tube called the boiler what happens is this, the water



1. BOILERS, SHOWING FLOW AND RETURN.

is continually falling with a theoretical velocity of 68.4 feet per minute. With an average height of 10 feet the fall per minute is 96.6 feet, and in an apparatus having a height of 20 feet the theoretical fall is 136.2 feet per minute; in short, the motive power in a hot-water apparatus is entirely in the return-pipe, the amount depending on the height and on the difference of temperature between the flow and return.

In quoting these figures no account is taken of the friction, which may be very small, or may be sufficient to wholly stop the circulation.

In the heating of hot houses it is of the utmost importance to remember that the motive power is in proportion to the difference in height between the lowest and the highest points of the apparatus,

which practically means the depth of the stokehole and rise of the pipes. Attempts are sometimes made to avoid sinking a stokehole, but such attempts are bound to be failures, and are only attempted by people without any knowledge of the underlying principles which govern the circulation of hot water in pipes.

It is well known to all experienced heating engineers that a boiler quite powerful enough to heat 1,000 feet of pipe where there is a height of 25 feet or 30 feet will not efficiently work more than 750 feet when the height is only 5 feet or 6 feet. Along with this must be considered the frictional resistance, which is the work to be accomplished.

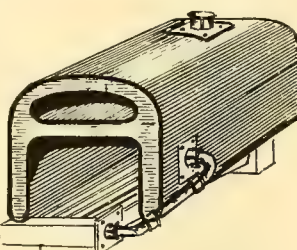
For hot house work there is a general agreement that a 4-inch pipe is the most suitable in regard to the quantity of water and the friction on the walls of the pipe; 3-inch and 2-inch pipes may, and often are, used, but probably 80 per cent. of the hot houses erected are heated with 4 inch. In very large apparatus larger pipes are often used for mains, but the radiating pipes are almost invariably 4-inch.

The relation between the size of the structure to be heated and the amount of heating surface is of the greatest importance; and although there are no scientific rules for this, practice has been much on the following lines, which, I think, except in the most exposed situations, are safe lines. Of course provision must be made against the coldest weather, which may be taken at 32° of frost.

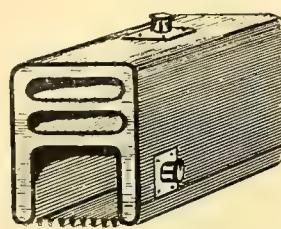
For conservatories where a temperature of not more than 45° or 50° is wanted there should be 1 foot of 4-inch pipe, or its equivalent, for every 35 cubic feet of space.

For plant houses, where a higher temperature may be required, the proportion should be 1 foot of pipe to every 25 or 30 cubic feet of space.

For stoves and Orchid houses, and also for early vineries, the proportion of heating surface should be still higher. An Orchid house 12 feet wide requires four rows of 4-inch pipes along each side, which gives 1 foot of heating surface to every 12 or 13 cubic feet to be heated.



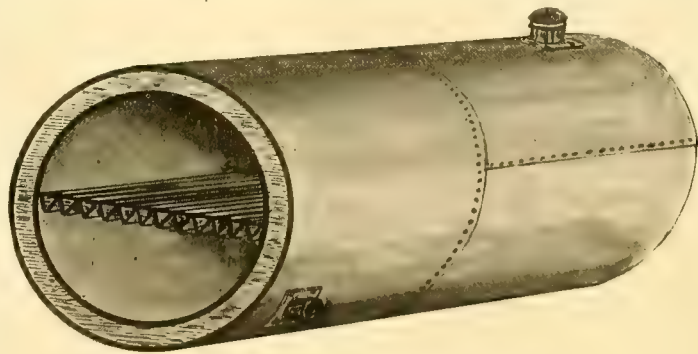
2. TERMINAL SADDLE BOILER.



3. TERMINAL SADDLE BOILER,
ANOTHER PATTERN.

expands—expands equally in all directions, downwards as well as upwards; but inasmuch as there is less resistance in the upward direction the whole expansion is diverted that way, the longer or rather higher column of water in the return-pipe resists the push of the expansion, and the hot water is forced upwards; thus the circulation is begun and in the same manner continued. It is clear that the cause of the upward flow of the hot water in the flow-pipe is the greater density and weight of the higher and colder column of water in the return-pipe.

It can be proved that with an apparatus having a height of 5 feet from the lowest to the highest point, and with an average difference of 10° between the flow- and return-pipe, the water in the return



4. CIRCULAR RIVETED STEEL BOILER.

The lean-to and semi-span type of early vinery 16 feet wide should have eight rows of pipes, being about 1 foot of pipe to every 15 cubic feet to be heated.

An intermediate vinery, if span-roofed and 24 feet wide, should have twelve rows of 4-inch pipes, giving 1 foot to about 16 or 17 cubic feet. A span house naturally requires a larger proportion of heating surface than a lean-to.

Peach houses 14 feet wide with four rows of pipes have a proportion of about 1 foot of heating surface to every 28 cubic feet, which may be taken as a fair medium where early forcing is not attempted.

Melon and general forcing houses often have a forcing bed on each side, with four rows of pipe below each bed. When this arrangement is adopted it is desirable to have more than the usual proportion, as those pipes in the chamber below the bed cannot be counted upon but to about one-half their heating value. It is usual to put a row of pipe along the side above the bed, close to the front; but, in addition to this, it is desirable to have some pipes in the footway covered with an iron grating.

These various circulations should be controlled by valves, as there will be times when no surface heat may be required, whilst a good strong heat is needed below the forcing beds.

There should be ventilators in the wall of the forcing bed for the admission of air, and other

water bars a large amount of heat is got when the fire is banked up, which would otherwise be lost or go to burn up ordinary metal bars; for it must always be kept in mind that what is wanted is a furnace and boiler that will go on for eight or ten hours without attention.

A very powerful sectional cast iron boiler has been introduced into this country from America. I cannot say I am partial to cast iron for boilers, as, owing to the nature of the metal, it is much more liable to accident than malleable iron and steel.

The heating of a single hot house, or even two or three when close together, is a comparatively easy matter, but when there are a great many circulations of various lengths and of various heights, there is very great difficulty sometimes in getting the water to circulate in the longer circulations. As an example of this I may refer to the very large apparatus in use at the gardens at Sandringham, the Norfolk home of H.R.H. the King. In this case some of the houses heated are over 400 feet away from the boilers, while there are others close at hand. Large mains are carried underground in a built tunnel large enough for a man to creep through and examine the pipes when required—all underground pipes should be in tunnels. The difficulty in getting the circulations at the extreme ends of the system to heat is caused by the short circuiting of the nearer

This has been adopted with very beneficial results by Professor Bayley Balfour in the Royal Botanic Gardens, Edinburgh.

I have left myself no time to say much about the ventilation of hot houses, but this is less to be regretted because ventilation is a very simple matter. In all cases there must be bottom ventilation and top ventilation. The bottom openings should be as near the floor level as may be practicable, and with Orchid houses and where other delicate plants are grown the cold air should be made to impinge on the hot-water pipes so that the chill may be taken off. The particular manner of doing this must be left for each case to be treated on its merits, the most important matter being that the opening arrangement should be such that 1 inch or 1 foot of an opening may be had at pleasure. The top ventilation should be at the highest point, and also must be arranged so that a very little space may be open in cold weather and as much as possible in very warm weather.

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AN AMATEUR'S FRUIT TREES.

DURING the last few years complaints have been made as to the greater difficulties of growing the Peach and Nectarine now, compared to a few



ELRUGE NECTARINE TREE IN A GARDEN NEAR LONDON.

ventilators above, close to the glass, for the escape of the heated air. In this way the temperature can be regulated as required.

It is not necessary to go into the question of boilers. There has been more controversy about the merits of boilers than any other detail in connection with hot houses. There are numerous patent boilers in the market, each one put forward by the maker or patentee as being the best. I have had very considerable experience of these during the last forty years, and my opinion is that a good deal of what is said in their favour may be discarded.

The old saddle boiler still keeps its hold as one of the simplest and, under reasonable conditions, one of the most economical; but I could not advise its use (except under special conditions) for quantities over 750 feet of 4-inch pipe. For quantities from 500 feet to 2,000 feet the terminal saddle boiler is powerful and economical. (Figs. 2, 3.) It takes more depth of stokehole than the plain saddle.

For larger quantities than 2,000 feet I very strongly recommend a steel Cornish or annular riveted boiler, and where there is a reasonably good draught water bars are a great saving of fuel. (Fig. 4.)

Water bars may also with advantage be used with saddle and terminal boilers. With these

circulations—the hot water takes the line of least resistance. It runs round one house before it can reach another more distant, and when the hot water from the nearer house arrives at a point about midway in the main return it begins to back up in the wrong direction instead of going on to the boiler, and causes more or less of an obstruction—"a block." This may, in some cases, be so effective as to stop all circulation in the furthest off parts of the apparatus. And there is only one way of preventing it, and that is by regulating the valves in houses near the boiler. The valves should be very carefully watched until it is found how much or how little they must be open to prevent the return water arriving at the midway point sooner than the return from the further off house. If the furthest off houses, on the other hand, were on a very much higher level, the tendency would be for the hot water to rush past the middle houses and the other circulations, and possibly the furthest off houses would have to be checked. In short, nothing but a careful study of the conditions and regulation of the valves will be effective in such a case in getting the required heating where wanted. In houses where a high temperature is kept up, especially where the sides are pretty high, a 2-inch or 3-inch pipe round the eaves is very useful to prevent down draughts.

years ago, owing to the uncertainty of our climate. Though the climate is partly at fault, much depends upon the attention the trees receive, soil, and other details. The fine tree illustrated was grown at Percy House, Isleworth, and for years the trees were in Mr. W. Podger's garden, a devoted amateur gardener, and remarkably successful with the Peach and Nectarine. If I can find any fault with the trees, I would say they are certainly overcropped, as will be seen in the illustration, and many of the fruits are covered by the leaves. No special culture of any kind was given, and Mr. Podger says none was required. I asked him why he did not thin the fruit and give the branches more room. The answer was, leave well alone. These trees are especially interesting to me. They are a great age, as some of them cannot be far short of half a century old, and we are only half a mile away, and cannot show a Peach or Nectarine half that age, at any rate so healthy. This shows how soils alter the character of the trees. Our soil is very thin, on gravel, and stone fruits are very short lived.

The large tree illustrated was photographed three years ago. This fine tree and several smaller ones are now doomed, as the estate has recently been purchased for the extension of the Brentford district schools. Feeding, in the shape of top-

dressing with manures, was not neglected, but the border in front of the trees, some 10 feet or 12 feet wide, was always cropped with vegetables, and doubtless the roots ran much farther out, as beyond the border was a grass field, and here they could develop unchecked. I am positive of this latter fact, as this season at Syon I had to make new drains in a hard trodden path gravelled and rolled regularly. Some 10 feet from the wall I was surprised to find the hard poor soil just under the gravel a mass of fibrous roots, and the Peach trees had only been seven years planted, but had made wonderful growth, free extension being allowed, and every other tree removed as soon as necessary to allow the branches free play. Some of these trees in Mr. Podger's garden have a spread of between 30 feet and 40 feet. This shows that no hard cutting back has been done. Although here and there large branches have gone wrong, probably by canker, new growths have been laid in freely and the trees saved. The position they occupied was south-west, and Mr. Podger found mildew rather troublesome on one or two varieties; but this was Royal George, which is more subject to mildew than others. The tree of Early Beatrice covers a very large space, the branches extending some 21 feet. I should think this must be one of the late Mr. Rivers', of Sawbridgeworth, earliest trees of this variety, owing to the size of the branches, as it was sent out in the sixties, I think, and from appearances the tree must be thirty years old. I do not care for this variety, and apart from its earliness consider it is not worth growing. Mr. Podger gathered ripe fruit from this tree some time in advance of all others. Early Alexander for open walls is much better in every way, also Waterloo, one of our earliest varieties on a south wall.

The Peach wall at Percy House is not very high, and fruits are produced quite at its base. The border was only slightly raised, and I am quite sure that in light soils in dry seasons trees often suffer with much raised borders; indeed, these trees often get dry, with the result that the fruits are small. The best open wall trees of Peaches and Nectarines I ever saw were in Gloucestershire, on a wall 8 feet high and only 18 inches border in front for the stem. Beyond this was a hard gravel road, and of course the trees could not have surface roots in the stones, but evidently the roots were at home under the path. The trees rarely failed to bear heavy crops; indeed, much better than those in the same gardens with a rich border. Liquid manure was given twice a week in quantity during growth on the narrow border, and this must have permeated under the roadway, and the roots, doubtless, were cool, and reached a long way. There can be no doubt whatever that to dig borders that are cropped over with Peach roots is not wise, and the roots should be allowed to extend. The trees must have a good root run to produce such lasting results.

At Percy House there is a very fine tree of Elruge covering a wide space, the branches reaching between 20 feet and 30 feet. Another very fine tree of Lord Napier calls for special notice, as though younger than the Elruge it is a grand tree, and for open walls few Nectarines are more trustworthy than this. Much the same treatment was given these fine old trees as that noted for Peaches, and though I noticed the Nectarines were not carrying such heavy crops, there were quite sufficient fruits. These fruits do not always finish well in many gardens, cracking badly, but in a light, warm, well-drained soil this does not often occur. Other Nectarines included Rivers' Pine Apple, certainly one of the best yellow fleshed varieties for the open wall, as the flavour is first-rate, and it is a most useful variety for later supplies, as it ripens after Elruge and Lord Napier.

G. WYTHES.

Galanthus Alleni.—Although not of recent introduction, this is still a scarce Snowdrop in gardens. Midway between *G. latifolius* and *G. caucasicus*, with a leaning towards the former, it is one of the handsomest of the whole family. A group of this is doing well and increasing rapidly on a warm south border.—I.

GARDENING OF THE WEEK.

KITCHEN GARDEN.

PEAS to produce supplies from the middle of August should be sown at once, and as this crop will have to be grown through the most trying part of the season special preparation should be made. If the ground on which they are to be grown be that recently occupied by Broccoli, the plot should be dug and trenches taken out at the proper distance apart to the depth of 15 inches, at the bottom of which should be placed 9 inches of good rotten manure and trodden tightly, afterwards covered to the depth of 4 inches with soil, which, if dry, should receive a watering of clear water. The seeds may then be sown thinly and covered with the remaining 2 inches of soil. As soon as the young plants are sufficiently advanced they may be earthed up and staked so that the ground between the rows may receive a mulching of stable manure which will greatly help to retain the moisture in the soil during the hot weather generally experienced at that time of the year. Autocrat, Chelsonian, and Late Queen are good sorts for sowing now. Autocrat was very fine here last season as late as the middle of October.

CHICORY

should be sown now on deep rich soil in rows 18 inches apart. The plants may be thinned to 10 inches as soon as large enough. Frequent dustings of lime are necessary as soon as the plants appear above the ground, slugs being particularly fond of this plant. Nothing more than the hoe will be necessary during the growing season, at the end of which the roots may be taken up and stored until required for forcing, which may be done in a similar way as Seakale in the Mushroom house or other place where they can have a little heat.

BROAD BEANS.

The last sowing may now be made and a cool position should be chosen for the purpose. As soon as sufficient pods are set the plants may be topped or they are sure to suffer from the attacks of blight.

TOMATO PLANTS

should be hardened off as soon as possible and planted out by the end of the month. A liberal supply of manure should be given to ensure free growth, and the plants confined to a single stem. Give an abundance of air to Tomato plants under glass, especially if in flower; frequent shaking of the trellis will also be necessary to ensure the distribution of the pollen. Tomato plants of rampant growth should not be given manure water until the crop is set, when they may have liberal waterings two or three times a week.

RIDGE CUCUMBERS

may be sown singly in pots and placed in a gentle heat. When large enough they may be planted out where protection can be given on cold nights. These Cucumbers will not pay for cultivation under glass, for with a cold frame much better results are obtainable by planting. All the Year Round, which is a splendid Cucumber for frame culture, if allowed sufficient room and pinched at the second joint above the fruit will produce large quantities of medium-sized fruit before the plants are exhausted.

LETTUCE.

The most forward of autumn sown Cos will now require tying up in numbers according to demand. Prick off seedlings as soon as large enough from sowings made in the open ground in March. A good rich border is necessary for the cultivation of good Lettuce, rapid growth being necessary to ensure tender hearts. Fortnightly sowings should now be made on a rich north border. JOHN DUNN.

INDOOR GARDEN.

POINSETTIA.

THE main batch of cuttings should at once be put in to strike. There is sometimes a little difficulty in successfully dealing with this subject, but if

properly handled there need be none. To prevent bleeding rub the ends well over with powdered charcoal, and let them remain out of the ground until this becomes somewhat hardened, when they should be put into a good bottom heat and plenty of atmospheric moisture.

SALVIA.

Cuttings put in as directed, and which have gone ahead satisfactorily, should be put into small pots, say 3-inch, in a somewhat light compost, and stood in comfortable quarters for a time; similar remarks are applicable in the case of Bouvardias.

CROTONS.

Continue to pot up "tops" which have been rooting, carefully sponging the leaves as the work proceeds. Those which were removed from the stem and now well charged with roots should be transferred from the small pots which were at first used into 4½-inch and 6-inch pots, using a mixture as follows: Loam, fibrous, two parts; peat, fibrous, one part; and let the remaining portion be made up of silver sand and broken charcoal. If the loam is of a poor nature let a dash of Thomson's vine and plant manure be added at the rate of a dessertspoonful to each plant to be potted. A full exposure to established stock should be given, and let the syringe be used vigorously amongst them.

FREESIAS.

The last batch of the season is now in flower here, and as they go over they are placed with those which have already been used and treated similarly. It is a great mistake to suppose that this very charming subject can keep, year after year, producing its fragrant flowers if due attention is not paid to the preparation and ripening of the bulbs; here we feed them liberally. Keep the grass clean by frequent use of the syringe and a full exposure to the sun. As the foliage shows signs of ripening down less liquid at the root should now be given. Of course, it will not be necessary, but the other details in their cultivation must be kept up. As soon as the last of the foliage has completely died down, the plants should be shaken out, the bulbs graded and exposed in shallow boxes, keeping them frequently turned, that thorough access by the sun is had to all parts of the bulb.

PELARGONIUMS.

These, having till now been located in the growing quarters, should be stood, as the flowering season is approaching, in the greenhouse or conservatory. Give a thorough fumigating before bringing them into this structure, and let all pots be washed clean.

HYDRANGEA PANICULATA GRANDIFLORA.

If the growths of this plant have not been supported with sticks, then they should be attended to without delay. I usually allow from three to five growths to a plant, according to the strength of it, and each growth should have a neatly-pointed slender stick, as when slung to one stout stick placed in the centre they are apt to roll about too much. Cuttings of the *H. Hortensis* and *H. Thomas Hogg* should now be put in. J. F. McLEOD.

Dover House Gardens, Roehampton.

FRUIT GARDEN.

WALL TREES.

TREES on open walls will need more attention during the next few weeks than at any other season, as though in most cases all will have been disbudded, it is always well to look carefully over them at this stage of their growth and remove badly placed or overcrowded wood. Apricots should be stopped after the main or extension growths have been placed in position. By stopping now spurs will form, and these being close to the wall will do better, receiving more protection. No matter how carefully the disbudding has been carried out some portions of the Peach and Nectarine will appear crowded. The shoots have a tendency to grow more at one portion of the tree, and this must be avoided by removal of surplus growths. April and the early part of May were notable for north-east winds, and both green

and black fly is troublesome, even more so this year than formerly, and this needs taking in hand before the tender foliage curls and makes the work more difficult. Quassia extract is a very safe insecticide. This obtained in a concentrated form is ready for use, and in bad cases it may be necessary to go over the trees several times to thoroughly cleanse them, choosing dull weather for the work. I have also noticed some trees have been attacked by red spider, and rarely is this the case so early in the season, but the insecticide advised for fly will do good. Failing this use a little sulphur solution and syringe frequently. Should any leaves have a tendency to curl and turn yellow, pick off the worst into the hand and leave new wood wherever possible to take its place. Very little attention is paid to Apples and Pears at this season, and in many cases the trees are allowed to set all the bloom, and later on the trees are laden with small crowded fruits. I would in the case of cordon or espalier trees advise thinning of the bloom, as it frequently happens that any misplaced blooms may with advantage be removed. This allows that left on the trees to strengthen and give finer fruits.

With other fruits, such as Cherries, the trees have set most freely, but the next few weeks is a critical period. It often happens in a dry, thin soil, deficient of chalk or lime, the fruits drop badly in the early stages, and though in some cases partial thinning is beneficial, it is well to get the fruit evenly distributed over the trees, and allow it to approach the stoning period before removal. The Cherry is one of the earliest fruits to mature; aid must be given in the shape of food and moisture should the trees require it. Though full early to mulch the roots, I strongly advise doing so, as once the Cherry becomes dry swelling ceases and the foliage becomes a prey to black fly. By a good mulch, any moisture or liquid food given is longer retained; the roots are cool, and growth is more robust. The same remarks apply as advised for the Peach as regards stopping, taking care to train in ample extension wood. The Cherry fruits well on spurs, and by close attention to stopping these form freely.

Strawberries in open quarters are showing splendid trusses this season, the bloom being strong, and there is a great promise of fruit. There should be no delay in mulching to keep the fruits clear of the soil. Nothing is more objectionable than dirty fruits. In our own case, with the early quarters we are using long grass, which is mown carefully and laid straight. The sun soon dries it, and the fruit rests on the same. Being cut early there is no seed to scatter. If litter is used it should be placed early in position to get cleansed by rains and exposure.

G. WYTHES.

Syon House Gardens, Brentford.

THE FLOWER GARDEN.

CAMELLIAS.

THE hardiness and general good qualities of the Camellia as an evergreen shrub for outdoor planting, thanks to some pioneer work which has been done in the way of planting in various parts of the country, is becoming better understood. Except in very sheltered spots in the mildest districts, I do not recommend its use from a flowering point of view, as the flowers, coming as they do in winter or early in spring, are almost certain to be spoiled; but as an attractive evergreen of good habit the Camellia is a splendid shrub to associate with many things. Many years ago I planted in a dell in a Cornish garden several large bushes, which flourished well, the position being a rather damp and shady one, and among them *Primula japonica*, in a variety of colours, was also a success. I hear from another garden that Camellias planted about the same time have recently been cut down, having outgrown their limits, and the old stools are growing again and making dense bushes. Except the loss of flowers I have never seen Camellias injured by frost beyond a slight browning of the older leaves, while Laurels have been badly cut by the same frost. Soil rich in decayed vegetable matter is specially suited to the Camellia, peat of course being the best that can be used, but

ordinary garden soil and leaf-mould form a very good substitute, and either will produce the dark green, glossy leaves that are characteristic of the plant when at its best. The present is a good time for planting out, and for several weeks it will be necessary to see that they do not suffer from want of water.

HYDRANGEA PANICULATA.

I advised some time ago that the plants intended to produce large and lasting heads of flower should be cut back severely. The stools will now be found to have broken into growth, and a selection should be made of the buds which are to produce the flower heads, all the others being rubbed off. The number of shoots left to a plant will be a matter of taste, and I need only say that the fewer they are the finer will be the individual heads of flowers.

LILIES.

Newly-planted Lilies of the late-flowering kinds are grateful for a little protection to the early growths. If this protection is afforded by growing shrubs or plants of any kind so much the better, but spray tips from Pea sticks answer very well, and they should be high enough to afford some shelter until the end of the current month. It is early yet to prophesy results, but all Lilies I have seen appear to be coming up exceptionally strong and clean this year.

ROSES.

Roses have many enemies, among the worst being aphides and caterpillars, which appear to await the first signs of growth. Unless one is ever on the alert they do much damage before being noticed. There is no better way of dealing with the caterpillars than the time-honoured one of going over the plants and killing the pests. Every curled leaf should be examined and its inmate killed, and this process must be repeated time after time until the flower buds have got beyond harm. Aphides may be got rid of by syringing with a solution of Quassia extract, this being one of the least dangerous of insecticides for tender leaves. Many varieties of Roses, *Mme. Berard* being among the worst, are subject to attacks of mildew. After trying many things as an antidote I may say that for Rose mildew I have found nothing more effective than a solution of soft soap, using half an ounce to the gallon of soft water. This appears to leave a slight varnish on the leaves that mildew cannot touch, though, of course, it is of no avail for new leaves which unfold after the application, and these must be dealt with by further syringings.

HERBACEOUS PLANTS.

Many of these which have been divided and replanted this spring will require frequent watering in dry weather. At the time of writing there has been little or no rainfall for several weeks, and though the ground is still moist enough below for established plants, those with no deep roots are suffering from surface dryness and require water. Water applied in the evening does most good, as it is not so soon taken up again.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

THE ROYAL GARDENERS' ORPHAN FUND.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—"Life Member" asks why the Chiswick Gardeners' Association now organise no concerts in aid of the Orphan Fund. I have had something to do with such concerts, and know but too well how difficult it is to obtain patronage for them. There is not a local object hardly but has its annual concert now, and these objects, because local, have a long way prior claim in the estimation of the local public than have such objects as the Gardeners' Orphan Fund. Local

committees or associations may organise even first-class concerts, but if the public will not patronise them, where is the reward? It is also a fact that concerts have largely had their day. People are tiring of their sameness. If any special effort be made, generally or locally, in aid of the fund, at least it should be of such a nature as to enable those who subsist on gardening to contribute, if even but small sums. Of course, the responsibility of the executive committee is heavy, yet it seems to be the case that no child is put on to the fund without its term of sustenance being provided for beforehand. I am not sure that the putting on of every child nominated, as was the case at the last general meeting, was wise policy after all, though it was in the highest degree generous. But such action may give the impression that funds are abundant. "Life Member" must remember that if fifteen children were put on the fund last February, a considerable number, of course, came off. Probably the fund will never have to support a larger burden than it has at the present moment.

A. D.

TOMATO CHISWICK PEACH.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I cannot but think that the deliciously flavoured Chiswick Peach Tomato, were it widely grown, would become one of the most favoured of all varieties for dessert. Possibly it may not be so desirable for cooking as are the larger red-fruited forms, but this variety is essentially a dessert fruit. Its colour, pale lemon, when ripe, and covered with white bloom, should make it as attractive on the table as is *Muscata* of Alexandria Grape, among others of that kind. The fruits are about the dimensions of bantams' eggs when fully grown, and are slightly oval. It is a variety that, for flavour and beauty, is very difficult to excel.

D. K.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Several notes have appeared about this Tomato. It was raised in the Royal Horticultural Society's gardens by Mr. Wright, and is certainly a splendid acquisition, and most distinct from all others, its soft lemon-like colour making it valuable for salad in a raw state. For dessert it should be the Tomato *par excellence*, but I do not advise Tomatoes for dessert; indeed, I regard them as out of place, but that is a small matter. Those who have not yet tried the Chiswick Peach will find it delicious for salad. In addition to its appearance, the plant crops prodigiously. I saw a house full of this variety at Messrs. Veitch's Feltham Nursery last summer, and the plants were cropping grandly, the fruits having set close to the pots, and were borne in great profusion up the stem. For pot culture this variety is most suitable and is very ornamental. The fruits are produced in large clusters, and are individually of medium size with a thin skin.

G. WYTHES.

THE IVY-LEAVED TOAD-FLAX AS A WILDING.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have long been accustomed to grow the Ivy-leaved Toad-flax (*Linaria cymbalaria*) in quantities for the conservatory and dwelling-house, and readers who are familiar with the plant and its adaptability to basket culture, and for trailing over shelves, edges of stages or artificial rockwork, will at once recognise and approve the wisdom of such a policy. A country cousin who paid me a visit last summer and had a look round the gardens under my charge, held a very contrary opinion. "What!" says he, "you grow that thing under glass. Why down home we can get bushels of it off the walls and bridges." I confess I was rather piqued at this sweeping hypercriticism of one of my modest favourites, and warmly combated the assertion, for as a rambling botanist of some years experience my finds of the sweet little *Linaria* had been few, and never had I found it in any profusion. But then I had evidently looked in the wrong places. That I had done so was

abundantly proved on returning my friend's visit in the early part of the present month (May), for I found the walls and bridges in the neighbourhood of his home in Gloucestershire absolutely teeming with myriads of the elegant trails and quaint Lilac flowers of the Ivy-leaved Toad-flax, and I do not think my friend was at all exaggerating when he made his statement concerning bushels of it. In spite of this reckless profusion of nature, I shall still stick to the plant for indoor work, and would recommend it strongly to others. The walls, and houses, too, for that matter, in this neighbourhood are all constructed of a grey stone, quarried near at hand, and it was in the interstices and mortar of these stone walls that the *Linaria* found so congenial a home. This fondness for stone and mortar should convey a valuable hint to persons attempting its culture for the first time, and I hope these lines may be the means of making many new friends for the modest little trailer, for despite its profusion in its Gloucestershire home, it is very rare in some neighbourhoods, and in all is well worth growing as a hanging or trailing plant for conservatory or window ornamentation.

E. J. CASTLE.

[The Ivy-leaved Toad-flax, although so common on walls in many parts of England, is so lovely a plant that it well deserves our correspondent's praise. It is sometimes inclined to take overmuch possession of space given to it in rock gardens, though it is more easily kept within bounds than *L. hepaticifolia*. No plant is more beautiful in a sunny wall. We once saw a pot of it in the window of a house in a French town, where it happened to be just on the level with the eye, and thought we had never seen anything more beautiful or suitable for such use.—Eds.]

NEW AND RARE PLANTS.

FLORAL COMMITTEE.

At the recent meeting of the Royal Horticultural Society an award of merit went to each of the following:—

AURICULA LEONORA (ALPINE).—In this the centre is clear and well defined, and the body colour warm purple. A very beautiful kind. From Mr. C. Turner, Slough.

BORECOLE ALBINO.—A distinct albino variety that should be useful for decorations, provided it comes true from seed. From Messrs. Storrie and Storrie, Dundee.

DIANTHUS PLUMARIUS LADY DIXON.—This is a mule pink of red-crimson shade, said to have resulted from crossing the Sweet William and the Clove Carnation. In the hybrid there is something of the Sweet William colour and the Carnation, while it is sweetly scented and free flowering. It is in its way quite an exceptional plant. From Mr. P. D. Williams, Lanarth.

BUNCH PRIMROSE THE SULTAN.—A remarkable plant. The rich almost intense orange-gold of the single flower is very fine, while the noble truss standing on stout stems of 9 inches high or more render it at once bold and telling. It is a great step forward in this section of early spring plants. From Miss Jekyll, Munstead Wood, Godalming.

TULIP WILLIAM III.—A full double kind, rich crimson.

TULIP BRUNHILDE.—A single kind, white with soft yellow near the base, and lined with a similar hue. These came from Messrs. Barr and Sons, Covent Garden.

NARCISSUS COMMITTEE.

NARCISSUS ELAINE.—A beautiful white Leedsii kind, very large and in all ways delightful. From Miss Willmott, Warley Place. First-class certificate.

The following received the award of merit, and were all shown by Miss Willmott:—

D. H. WEMYSS.—A possible Leedsii kind, with a charming bicolorous cup, this being yellow with deep orange margin.

CORYDON.—In this the segments are pure white and the lemon-coloured cup long and spreading.

AMBER.—This also has pure white segments, with a long cup of amber-yellow tone, quite distinct.

The following came from the Rev. G. Engleheart:—

AFTERMATH.—This may be likened to a large creamy ornatus, or this and poetarum mixed. It has a fine orange-scarlet cup.

SPENSER.—A very large, finely-formed poeticus kind, with leanings towards recurvus.

REAR GUARD.—A singularly beautiful kind, with creamy-winged segments and long pale yellow cup.

DAY STAR.—This has greater leaning to the Incomparabilis group, though whiter, with a well-formed cup of lemon hue.

SEA BIRD.—In this the segments are large and nearly pure white, slightly incurved as though suggesting influence from *N. poeticus recurvus*. It is, however, a beautiful and graceful sort.

ORCHID COMMITTEE.

CATTLEYA SCHRODERÆ HEATONENSIS.—The sepals of this flower are faint lilac, the petals of lighter tone and fringed on the margin. The lip rosy-lilac, becoming suffused with creamy-yellow in the centre and through the throat. The outer margin is heavily fringed as seen in the best forms of *Cattleya Mendeli*. A most distinct and attractive variety. A plant carrying two racemes of flowers was exhibited at the Drill Hall on May 7. From the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill (gardener, Mr. W. Thurgood). First-class certificate.

ODONTOGLOSSUM HALLI KING EDWARD VII.—The sepals have large brown blotches at the base, marbled with greenish yellow, tipped at the apex with yellow. The petals similar to the sepals, except that they have more marbling at the base. The broad lip white, spotted with brown, and having a deep orange disc, the hair-like protrusions at the base being unusually prominent. An exceptionally good variety. A plant exhibited at the Drill Hall on May 7 from Mr. Pitt's collection carried a raceme of nine flowers. First-class certificate.

ODONTOGLOSSUM CRISPUM CONFETTI.—This most charming plant was originally exhibited by Messrs. Linden at the Temple show last year. It has, like many other *Odontoglossums*, improved wonderfully by culture. The flowers are $3\frac{1}{2}$ inches in diameter, the back of the segments suffused with deep rose. The front of the sepals white, the colour from the back, being reflected through, gives a faint rose suffusion, the basal two-thirds being densely covered with reddish-purple spots and blotches. The ground colour of the petals is rather lighter than the sepals, and the spotting more evenly diffused, and extending well towards the apex. The lip white with a yellow crest. There is one large brown blotch in the centre, and numerous smaller spots at the sides. The plant exhibited at the Drill Hall on May 7 carried a nine-flowered raceme, and came from the collection of J. Leeman, Esq., West Bank House, Heaton Mersey (gardener, Mr. Edge). First-class certificate.

ODONTOGLOSSUM ADRIANÆ COBBIANA.—The sepals are almost wholly deep reddish brown, broken at the base with yellow. The petals also brown, marbled with yellow on the basal halves, the lip much fringed on the margin, yellow, and thickly spotted with dark brown. This is the most distinct variety of *O. Adriane* we have seen. Previous plants exhibited have been supposed to have their origin in a natural cross between *O. crispum* and *O. hunnewelliana*. Exhibited at the Drill Hall on May 7 by Walter Cobb, Esq., Dulcote, Tunbridge Wells (gardener, Mr. J. Stowes). First-class certificate.

LÆLIO - CATTLEYA DIGBYANO-MENDEL (Tring Park variety).—This is a charming hybrid between the species indicated in the name. The variety exhibited by the Hon. Walter Rothschild, Tring Park (gardener, Mr. Hill), is larger than the typical kinds. The sepals and petals light rose, the lip almost white, faintly tinted with rose, and becoming suffused with greenish yellow through the centre, with a few purple lines at the base. There is a heavy fringe around the margin. The flower generally and the habit of growth show the characteristics of the parent species. First-class certificate.

LÆLIA MRS. GRATRIX (Tring Park variety).—Exhibited by the Hon. Walter Rothschild at the Drill Hall on May 7. It is distinct from the previous kinds in having larger flowers of rich orange instead of the usual yellow. Award of merit.

CATTLEYA MENDEL QUEEN ALEXANDRA.—This is a fine form, both in size and substance. The sepals are almost white, the petals faint rose, with a prominent blotch of purple at the apex. The lip crimson-purple on the front lobe and around the margin of the side lobes, the base yellow, with prominent brown lines. A plant carrying two flowers was exhibited at the Drill Hall on May 7 by Mr. H. A. Tracy, Anyand Park Road, Twickenham. Award of merit.

SOERALIA LINDENI.—This is an old but seldom seen species. The sepals and petals are deep rosy lilac at the base, becoming suffused with rich rosy purple toward the apex. The lip crimson-purple on the front lobe, and white through the base. The flowers last three or four days in perfection. It is a distinct and desirable kind. Exhibited at the Drill Hall on May 7. From the collection of Sir T. Lawrence, Bart. (gardener, Mr. W. H. White). Award of merit.

BRASSO-CATTLEYA NIVALIS.—A supposed natural hybrid between *C. intermedia* and *B. fragrans*. Exhibited by Mr. J. Leeman on May 7. The sepals and petals creamy white, the lip creamy white, stained with yellow in the centre. Award of merit.

ODONTOGLOSSUM CRISPUM COUNTESS OF DERBY.—This has pretty light rose-tinted flowers, the sepals blotched with brownish purple, while the petals are densely spotted through the central area. The lip is white, spotted with brown in the centre, and with yellow on the crest. Exhibited at the Drill Hall on May 7 by Mr. J. Leeman. Award of merit.

ODONTOGLOSSUM CRISPUM DOMINO.—The sepals are white, suffused with rose down the centre, and regularly marked with large brown spots. The petals are white, with brown spottings in the central area. Lip white, becoming yellow on the crest, and having a large brown spot in the centre. The plant shown by Mr. Leeman at the Drill Hall on May 7 carried a raceme of eleven flowers. Award of merit.

ODONTOGLOSSUM CRISPUM RAYMOND CRAWSHAY.—This is a most chaste and distinct kind. The sepals are rose tinted and blotched with purple, the markings on the lower sepals showing distinct tracings of yellow. The petals rose, suffused with purple around the margins, the central area covered with large purple blotches. The lip white, spotted with miniature brown spots around the outer margins, larger ones in the centre. Yellow on the crest. Exhibited by D. B. Crawshaw, Esq., Rosefield, Sevenoaks, at the Drill Hall on May 7. Award of merit.

Answers to questions.—We are very pleased that readers are taking advantage of our willingness to help in all matters concerning the garden, and so many letters have been received this week that we are compelled to hold over several answers to questions until our next issue.

Bath and West and Southern Counties Society.—The annual exhibition of this old-established society, which will take place this year at Croydon, on Wednesday next to the 27th inclusive, will be a most extensive one. The total number of entries is just over 2,000.

"The Garden" and the Temple Show.—Our next issue will contain a report of the great exhibition to be opened on Wednesday in the Inner Temple Gardens, and several illustrations of interesting exhibits. The report and illustrations will in no way interfere with the ordinary weekly features of the paper.

Mr. Owen Thomas.—Much regret has been expressed by the numerous friends of Mr. Thomas on their learning of his forthcoming retirement from the management of the Royal Gardens, Windsor, to which position, as announced last week, Mr. MacKellar has been appointed. So recently as the 6th of October last we had the pleasure of including Mr. Owen Thomas as a "Worker Amongst the Flowers," and in the issue

of THE GARDEN for that date will be found a brief illustrated sketch of Mr. Thomas's career.

Royal Horticultural Society and the Temple Show.—The fourteenth great flower show of this society, held annually in the Inner Temple Gardens, Thames Embankment, will open on Wednesday next at 12.30 p.m. Judging from the large number of entries received, the show promises to be quite up to its usual standard of excellence, and many well-known amateurs are among the intending exhibitors, as well as, of course, the trade. A splendid display is promised.

National Sweet Pea Society and forthcoming show.—We have received the schedule of prizes and regulations for the exhibition to take place at the Royal Aquarium, Westminster, on Thursday and Friday, July 25 and 26 next. Those who wish to compete should consult the honorary exhibition secretary, Mr. R. Dean, 42, Ranelagh Road, Ealing, before July 18. Twenty-one classes are provided, and the highest prize is £4, as the premier award in the class for thirty-six bunches distinct. It may be well to remind readers that the honorary general secretary is Mr. H. J. Wright, 32, Dault Road, Wandsworth.

Summer show of the National Rose Society.—The committee have had the very exceptional privilege granted them by the Treasurer and Benchers of the Inner Temple of being allowed to hold the society's metropolitan show, hitherto held at the Crystal Palace, in the Inner Temple Gardens, on the Thames Embankment. The exhibition will accordingly be held this year in those gardens on Thursday, July 4, in a tent nearly 500 feet long, with four lines of staging down its entire length. Several novel features in the way of exhibits will be introduced, and the band of His Majesty's Royal Horse Guards, under Lieutenant Charles Godfrey, R.A.M., has been engaged to play. No trouble or expense will be spared in order to make this the most attractive Rose exhibition the society has yet held. Members subscribing £1 will receive six private view tickets, and those subscribing 10s. three private view tickets. Members also have the privilege of purchasing tickets for their friends of the honorary secretaries previous to the show at a reduced price. The private view (or 5s. ticket) will be obtainable at 3s. 6d., and the 2s. 6d. ticket at 1s. 6d. Members are earnestly requested to make this exhibition known among their friends, and more particularly to those residing in or near London, and to co-operate with the committee in making special exertions to ensure the success of this new departure, which will not only be the most magnificent Rose show ever held in London, but also has every promise of becoming one of the chief events of the London season. The charges for admission to the general public will be as follows:—From noon till 4 p.m. (private view), 5s.; from 4 p.m. till 5.30 p.m., 2s. 6d.; from 5.30 p.m. till 7.30 p.m., 1s. The Rev. H. Honeywood D'ombrain and Mr. Edward Mawley are the hon. secretaries.

SOCIETIES.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

The usual monthly meeting of this excellent association took place on Tuesday, May 7, at Winchester House, Old Broad Street, E.C., at seven o'clock in the evening, Mr. D. B. Crane in the chair. On this occasion a lecture on "The Cultivation of the Fuchsia" was given by Mr. A. J. Foster, who is an enthusiastic grower of these plants, and who proved his knowledge of the subject by his remarks. A most comprehensive view of the plant and its cultivation was taken by the lecturer, who commenced by saying it was everyone's flower, and well deserved the name. It was a plant of easy culture, and was suited alike to growers in town and country. Success could be achieved with a small amount of attention, except in the case of culture for exhibition. Not the least interesting feature of the lecture was the history of the plant, given in detail by Mr. Foster, who brought his subject up to date. Propagation by cuttings—young growths, usually in early spring—was advocated, using for this a compost of loam, leaf-mould, and sand in equal quantity. With a good bottom heat, the lecturer said, the cuttings should be rooted within a period of from three to six days. Subsequent treatment was also carefully detailed. Autumn propagation was recommended for specimen plants, keeping the plants in a warm corner of the greenhouse in the winter. Young plants should be

syringed, and on this point emphasis was laid. Forms of training were described, pyramids, bush plants, and standards being the popular methods. For baskets and climbers special treatment was described, the lecturer advocating the use of old plants for the latter purpose. He also recommended shading during the warmest periods of the day only. Syringing and feeding, the latter fully and cautiously, air-giving, insect pests and remedies were each dealt with in turn. Winter treatment, bedding plants, and watering also came in for a large share of attention, and a most interesting lecture was brought to a close with a consideration of the question of raising new varieties and selections of varieties for various purposes. A discussion followed, in which several members took part.

It was notified that a visit to Aldenham House Gardens, through the kindness of Lord Aldenham, had been arranged for Saturday afternoon, July 27 next. A visit to the gardens at Hatfield House was also contemplated in June, arrangements for which were now in progress.

A capital display of flowers and plants was arranged by the members, in competition for prizes and diplomas. Orchids were well represented, as were hardy spring flowers, Daffodils, Violas, and quite a large number of interesting subjects were staged for adjudication, and gave evident pleasure to the members present.

This is essentially an amateur gardeners' society, and the secretary, from whom particulars can be obtained, is Mr. F. Finch, 117, Eimbleton Road, Lewisham, S.E.

NATIONAL ROSE SOCIETY.

We have referred elsewhere to the forthcoming exhibition of the National Rose Society, and hope that this show, when held in the Inner Temple Gardens, will prove a splendid success. This society is one of the most important of those dedicated to a special flower, and the annual displays are always, not merely delightful to the eye, but of real interest to rosarians. We have just received the annual report, which also contains the schedule of prizes to be offered at the forthcoming shows. We make a few extracts from the report for the past year:—

The committee, in presenting their report, are pleased to record another year of steady progress in all the branches of the society's work.

The cold and dry weather in May and during the early summer, by checking the growth of Rose plants, had an unfavourable influence upon the Salisbury exhibition, which proved the smallest southern show that the society has yet held. But at the exhibition held at Westminster, in conjunction with the Royal Horticultural Society, a week later, the competition was much more satisfactory. The Crystal Palace show proved an unusually extensive one, being the largest metropolitan exhibition, with the exception of those in 1892 and 1897, yet held by the society, but owing to the unfavourable character of the season the general quality of the blooms was below the usual standard. The display of Roses at the Birmingham exhibition was also exceptionally large.

Great credit is due to the local committees for the excellent arrangements made in connection with the southern and northern exhibitions, and especially to Mr. G. Nicholson at Salisbury, and to Professor Hillhouse and Mr. C. W. K. Wallis at Birmingham. Indeed, seldom have these arrangements been in all respects as complete and satisfactory. Much credit is also due to Mr. G. Caselton for his share in the management of the Crystal Palace show. At all three exhibitions of the society the attendance of visitors was remarkably good.

At the conferences held at Salisbury and Birmingham interesting discussions took place upon Miss Jekyll's paper, entitled "Suggestions for the Decorative Use of some Garden Roses." The report on these conferences has recently been issued to the members, together with a new and revised edition of the "Hints on Planting Roses." The committee take this opportunity of expressing their best thanks to Miss Jekyll for her admirable and suggestive paper. They report with pleasure that the sale of the society's publications to non-members has greatly exceeded that of any previous year. They likewise regard with satisfaction the result of their efforts to encourage the staging of exhibition blooms in vases instead of boxes, and also in the increased number of stands of garden Roses at all three exhibitions.

It is with the deepest regret that they have to record the death in May last of Mr. T. B. Haywood, for seventeen years the society's able and much respected hon. treasurer. They have also to deplore the loss through death of that very generous friend of the society, Mr. F. W. Campion. Then on the eve of the Birmingham show came the sad news of the death of Mr. Benjamin R. Cant, of Colchester, at all times a warm supporter of the society, and one of its original founders. A subscription list has already been set on foot to ensure a special prize, to be entitled "The Ben Cant Memorial Prize," being offered annually in his memory at one of the society's exhibitions.

FINANCE.

The committee feel that they cannot refer to this question of finance without expressing their keen appreciation of Mr. Charles B. Haywood's kindness in having consented, on the death of his father, to accept the position of hon. treasurer to the society. The usual grant of £105 from the Crystal Palace Company towards the expenses of the metropolitan exhibition has not yet been received, otherwise the financial position of the society would have been in every respect as satisfactory as in former years.* In order to prevent the society being placed in a similar unsatisfactory position at any future time through the loss or delay in payment of any large sum due, the committee recommend that a reserve fund be at once set on foot.

There has again been a steady increase in the roll of members, which at the present time number 584, or more than in any preceding year.

* Since the report of the committee was drawn up, the grant of £105 due from the Crystal Palace Company has been received.

ARRANGEMENTS FOR 1901.

The southern show of the society will be held at Richmond, Surrey, on Wednesday, June 26, in conjunction with the Richmond Horticultural Society; the metropolitan exhibition in the Inner Temple Gardens, on Thursday, July 4; and the northern show at Uxbridge, in connection with the North Londale Rose Society, on Wednesday, July 17. Prizes will also be offered by the society at the Rose show of the Royal Horticultural Society, which will take place at the Drill Hall, Westminster, on Tuesday, July 2.

MEMBERS' PRIVILEGES.

Members subscribing £1 will be entitled to six private view tickets, and subscribers of 10s. to three private view tickets. Each of these tickets is available for any one of the society's exhibitions; they will also admit to the Royal Horticultural Society's Rose show at Westminster on July 2. Members joining the society for the first time in 1901 will also receive copies of the following publications:—The new edition of the "Official Catalogue of Exhibition and Garden Roses," the revised edition of the "Hints on Planting Roses," the "Report of the Conferences on Pruning and Exhibiting Roses," the "Prize Essay on the Hybridisation of Roses," the "Report on the Constitution of Rose Soils," and the conference report on Miss Jekyll's paper on "Suggestions for the Decorative Use of some Garden Roses," and in November next to a "Symposium on How to Grow and Exhibit Tea Roses." Members alone are allowed to compete at the shows of the society. N.B.—Members can purchase tickets for their friends for the Temple Rose show at reduced prices.

The committee express their best thanks to the donors of special prizes at the society's exhibitions, among which may be mentioned: the Right Hon. Lord Calthorpe, the Right Hon. Joseph Chamberlain, M.P., Captain Ramsay, Mr. C. J. Grahame, Mr. F. Dennison, and the late Mr. F. W. Campion. Their best thanks are also due to those local secretaries who have in any way assisted the society to maintain its present position, and especially to Mr. G. W. Cook, who has again outdistanced all its local representatives in inducing new members to join the society. Mr. F. W. Wright, a new local secretary, has also done excellent service at Birmingham.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last. The minutes of the last meeting were read and confirmed. Messrs. Pollett's tender for printing agenda forms was accepted. Ten new members were elected, and three others nominated. The secretary reported the death of Mr. Michael Davis, and it was resolved that the amount standing to his credit in the books of the society, viz., £55 0s. 8d., be paid to Mrs. Davis, and that a vote of condolence be also sent her. The sum of 7s. per week was granted to Mr. H. Saunders (No. 14) until his case demands further consideration. Mr. G. Clinging was granted 10s. per week for three weeks from the convalescent fund for a change of air, in addition to his sick pay. It was resolved that 1,000 copies of the rules be estimated for and submitted to the committee at the next meeting.

CROYDON AND DISTRICT HORTICULTURAL SOCIETY.

AT a meeting held at the Art Gallery, Park Lane, on Tuesday, May 7, a paper entitled "Gardeners' Feathered Friends and Foes" was given by Mr. Percy Bunyard.

Mr. Simpson occupied the chair, and briefly introduced the lecturer.

Mr. Bunyard said he thought the title of his paper was somewhat erroneous, as he was at a loss to find one single bird which was an enemy in the true sense of the word, unless it was the bullfinch. The amount of harm done by birds in the garden was infinitesimal as compared with the

LARGE AMOUNT OF GOOD

which they did. A garden without birds would be like a garden without its Rose, and a bird was as beautiful as the most beautiful flowers. The thrush, blackbird, and starling undoubtedly wrought

GREAT HAVOC

with the fruit, but this might easily be prevented by a plentiful supply of netting and also by the imitation of a hawk suspended over the trees. The robin, blackbird, and starling, in common with other birds, fed largely upon insects, and were entitled to the gardener's high commendation. Snails in particular fell victims by thousands to the hungry and persevering thrush. Just as the wren searched after and destroyed the eggs and chrysalides of insects so did the thrush seek for and kill the snails, which had retired from the world and immured themselves, monk-like, in cells of stone and wood. Of the blackbird he could not speak so favourably, but at all events he would commend him to notice for his undoubted service in the spring, and although he might not be so useful a friend to the gardener as the thrush, he must not be ranked among the gardeners' foes. The chat family all visited our country at some time of the year, and their feeding habits were almost identical. Their food consisted of flies, beetles, and other insects, such as slugs, caterpillars, and small snails. The nest of the furzechat was most difficult to find, being

BEAUTIFULLY CONCEALED

in the long grass or at the bottom of a furze bush. One of the most useful and largest families of feathered friends were the warblers, more than twenty in number. The amount of good done by these birds was enormous, as they fed almost entirely upon insects, but when the season was very dry they betrayed a partiality for a more luxurious diet, and fed occasionally on the Currants and Raspberries. The tits or titmice were most interesting and familiar objects of the garden, and although ranked by ignorant people as the worst of garden foes, they were in reality to

be placed among the most valuable of garden friends. Hundreds of these birds might be seen among the branches of the fruit trees picking away at the buds, and this being the case the generality of horticulturists imagine that the titmice were disabbling the trees, added its name to the black list, and wreaked vengeance upon it whenever they can; but they were not feeding upon the buds, but upon the insects in them. It had been calculated that a single pair of titmice destroyed on the average no less than 1,000 flies, grubs, and caterpillars daily. The nuthatch was a common sight to most gardeners. Its food consisted principally of Nuts—hence its name—Acorns, Green and Beech Nuts, and occasionally, as a corrective to so much vegetable matter, they partook of beetles and caterpillars. Some birds being entirely insectivorous were valuable.

FRIENDS TO THE GARDENER.

The butcher bird derived its name from the fact of its hanging its food up on the thorns and other prickly trees, thus forming a kind of larder. The finch family, twenty in number, include the sparrow, greenfinch, chaffinch, bullfinch, linnet, and hawfinch, were undoubtedly very destructive in the garden. The food of the sparrow—which would become an intolerable nuisance when too numerous—included almost everything that was eatable. Among other things, it was partial to the buds of fruit trees, notably Gooseberries and Red Currants. The bullfinch was undoubtedly the worst enemy of the gardener, but that was really not half so black as it was painted. There were two methods of keeping finches off fruit trees, one by sprinkling soot over the trees three or four times during the winter, and the other was to stretch four or five strands of black cotton just over the tops of trees. The cuckoo was a very valuable bird, being entirely insectivorous. In conclusion, the lecturer said there were many birds which took a very active part in the garden indirectly; for instance, the owls and hawks.

The lecture was splendidly illustrated by lantern slides, by the noted photographer of bird life, Mr. R. B. Lodge, Enfield, the lantern being manipulated by Mr. Baldock, who was awarded a vote of thanks.

The chairman proposed a vote of thanks to the lecturer, which was most heartily accorded.

ANSWERS TO CORRESPONDENTS.

Names of plants.—*F. A. S.*—Flowers of both Daffodils and Primulas received in very bad order from abrasion with muddy moss. Both Daffodils are apparently one of the forms of *N. Nelsoni*; Primula may be *P. longifolia* (corolla was gone) or a very poor seedling of garden alpine *Auricula*.—*J. B. M.*—These are flowers of *N. incomparabilis* either turning from single to double or *vice versa*. When quite single they are called Titan, but in any form of doubling they are called Butter and Eggs. A good deep rich soil would tend to make them fully double.—*Mrs. W. Adams.*—*Fritillaria pyrenaica*.—*Woolton.*—The double Meadow Saxifrage (*Saxifraga granulata* fl.-pl.).—*Amateur Fern Grower.*—*Asplenium bulbiferum*.—*T. H. A.*—*Bletia hyacinthina*. Grown in a greenhouse alters its character slightly.

Spots on Orange leaves (A REGULAR SUBSCRIBER).—Your Orange tree foliage is badly scorched, we think, through bad glass—that is, spotted or imperfect glass—and the spotting occurs after a dull period, and mostly early in the day when the trees are moist. You will do well to shade your glass for a time with a weak coating of whitening mixed with size or milk, and that will prevent the scorching in future; also give more ventilation if needed.

Peach leaves scorched (P. K. G.).—The cause of spots on the Peach leaves sent is a bright sun shining through bad glass. This occurs after a dull period, and it often happens when the foliage is moist from syringing in a close atmosphere. You may prevent it in future by giving ventilation a little earlier in the day; indeed, in some cases, a little all night is desirable. You may also shade the glass where it is spotted with a weak solution of whitening and milk.

Layering Carnations (W. DUNLOP).—Layers put down in September would form roots freely, but they should be done as early in the month as possible. The layers may be made as soon as the flowers open; it does not injure the flowers in the least to layer even before they are fully developed. I do not finish up layering until quite the end of September, although we begin early in July.—*J. DOUGLAS.*

Fumigating greenhouse (STANTON).—It is easy to understand your difficulty in fumigating your greenhouse, which is attached to your dwelling, and which is entered from it by a window. When erections of this kind for plant culture are put up, architects never think of insect life, of the needs for fumigation, or even of the damp atmosphere which is so often associated with plant houses. However, if you are to have clean plants, you must fumigate, and to that end it will be well to close the window tightly and to hang some thick curtains over it also, and keep it close for some twenty-four hours after the greenhouse has been reopened to allow the smell to escape. The vapour decoction known as XL All is better than tobacco paper, as the smell sooner passes off, but the vapour must be excluded from the dwelling-house at any cost. Fumigate in the evening.

Tulips and insect pest (W. H. BANKS).—Your Tulips are attacked by one of the snake millipedes, the spotted snake millipede (*Blanulus guttatus*). These are most destructive pests. While they are inside the roots there is no means of destroying them, except by heat, as it is obviously impossible to make any insecticide reach them. I believe that if the bulbs were immersed in water of a temperature of from 115° to 120° Fahr. for ten minutes or a quarter of an hour it would kill them without injuring the bulbs, but of this I am not certain. It might be worth

while to try, as, except picking the pests out of the bulbs, I do not see what else you could do except burn them. When you have taken up the Tulips I should give the ground a good dressing of gas lime or a thorough soaking with boiling water.—*G. S. S.*

The National Rose Society (H. N.).—Write to Mr. Edward Mawley, one of the hon. secretaries, Rosebank, Berkhamstead.

Vine book (G. BROWN).—You cannot do better than get Mr. A. F. Barron's "Vine and Vine Culture" from the author, 13A, The Acacias, Sutton Court, Road, Chiswick Middlesex. Its price is 5s. 6d., post free; it is the work of an authority upon the subject.

Lifting Tritelia (W. W.).—*Tritelia uniflora* should be lifted and replanted as soon as the leaves have turned yellow.

Helonias bullata (F. H. S.).—The best time to move this would be early autumn, August or September, and for moving Everlasting Pea October or November.

Insects on seedling Sweet Peas (M. J. W. B.).—The creatures you sent and which you found on your Sweet Peas are specimens of one of the carnivorous mites (*Trombidium holosericeum*). I cannot fancy that they have injured your Sweet Peas, but they were probably feeding on some small insects, aphides, thrips, &c., which had attacked your Peas. There was very little left of the dead earwig which you found many clustered round, only just the end of its body entirely cleared of its contents and the pincers; these, I presume, were too tough for the mites. This is a clear proof of the carnivorous nature of these mites.—*G. S. S.*

Runner Beans (AMATEUR).—It is a good desire on your part to have variety in even such products as Runner Beans. You have yet ample time to make sowings, but first in each case see that the ground be well trenched and heavily manured, or be treated as for Celery, by making a trench 2 feet wide and deeply moved and manured for each row. To have really good products get of Scarlet Runner seed of Ne Plus Ultra or Best of All, and sow fully 4 inches apart in a single row or in double rows, also get climbing Canadian Wonder and sow 6 inches apart, and also seed of the Golden Butter Bean (Mont d'Or). The Scarlet Runner needs sticks 8 feet in height, the others about 6 feet in height. With a good row of the climbing Canadian Wonder you will hardly need to sow Dwarf Kidney Beans. The Butter Bean cooked whole, and served with sauce or gravy, makes, when well-cooked, a delicious dish.

Pruning and nailing back Fig tree.—An old Fig tree in my garden has lately been pruned and nailed back to the wall, which I believe to be a mistake. Young Figs are beginning to show on last year's wood. Should these branches be left nailed to the wall or released?—*B. M. B.*

[We cannot see how a mistake has been made with your Fig tree if you intend it to be on a wall, as the tree gets so much more benefit from the wall than if away from it. You will get much finer Figs if the branches are close to the wall, as the tree will get more warmth. By all means allow the branches to remain, and proceed thus: The shoots showing the Figs will grow fast, but these must be stopped at the fourth or fifth joint above the fruits. If allowed to grow the Figs will drop, as the shoot above the fruit will rob the Figs of their nourishment. At the same time, nail into the wall any strong shoots, what are termed leaders or extension shoots, as these will fruit next year, and stop or pinch at 4 inches or 5 inches long shorter ones not showing fruit. These will bear next season. These we term spurs. You may also cut out weak spray growths at all crowded and not needed for fruit or extension of the tree. You see the Fig fruits on wood made the previous year. This you must encourage.—*EDS.*]

Aphis on outside Peaches (E. C. P.).—We presume you mean Peach trees on walls, and from the shoots enclosed you have, unfortunately, both green and black fly, also a touch of red spider, which needs different treatment to the aphis. Green fly is the least troublesome, but even this pest if left soon destroys all prospects of a crop. You would do well to give them a thorough cleansing when dormant, say, any time from November to February. To get rid of green fly you may use tobacco water, syringing the trees so that every portion is moistened, but even here there is a difficulty: the leaves that are infested curl badly, and the mixture cannot always be made to touch the fly, owing to the leaves being folded or curled, and it is much the better plan to go over the trees before syringing and pick off the badly curled ones, burn them, and then syringe. If tobacco water of sufficient strength is used this will also kill black fly, but it is advisable after using a strong dose to syringe the trees after applying the same with clean water. In many cases a hose pipe may be employed, and this is better. Another equally good thing is quassia extract for cleansing. This is better for green fly than tobacco water, as it does not leave any deposit. Strong solutions of tobacco mark the fruit. Quassia is obtained in a concentrated form ready for use, and a few dressings during the summer months will keep the trees clean. Such fruits as Cherries are more difficult to keep clean than Peaches, and here quassia will be found most valuable. But no matter how thoroughly you may give one or two dressings there may be stray insects lurking here and there not touched by the insecticide. This points out the necessity of doing the work over again, as both fly and spider cannot exist. Moisture is fatal to them, and if the trees are frequently damped over late in the afternoon spider will soon disappear. This differs from aphis as it soon covers the tender foliage and stunts growth; it has a rusty look, and the spider, unless in very bad cases, is invisible, and therefore more easily overlooked. It is a good plan when syringing to place a small quantity of flowers of sulphur in the water. This well mixed will also stop mildew, another troublesome pest to which the Peach and Nectarine are addicted, especially such kinds as the Royal George, one of our best Peaches, but often very troublesome. Black fly is more difficult to get rid of than green fly, so that this should not be allowed to spread. Dust over infested shoots with tobacco powder,

but in bad cases no one should hesitate to remove unhealthy foliage, as new foliage is soon made.

Himalayan Rhododendrons (ALEXANDRINA).—1, the Himalayan Rhododendrons should have sunshine quite half the day; 2, they should stand out of doors all the summer in a sheltered place, where they would be in shade the latter half of the day; 3, the roots should always be moist; 4, *R. sesterianum* should be in a temperate house; the failure to bloom may have been caused by too high a temperature.

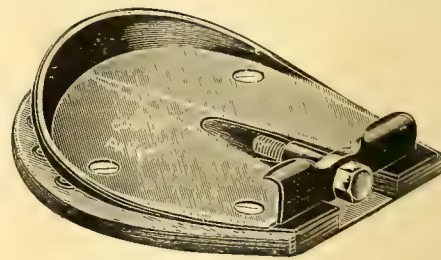
Moulding up Potatoes (CHAMPION).—Certainly the earthing up of Potato plants, as is the common practice, is very much a matter of taste. We have had good crops, indeed, very fine ones, from unmoulded breadths, but still with the disadvantage that many of the finest tubers being either exposed to the light or else so near the surface have been partially green and hot, and thus unfit for eating. Keeping the newly-forming tubers from this exposure to light and air is the primary reason for moulding up. There is also the reason that when there is over the tubers a good coating of soil there is less liability to disease, as then the minute fungus spores which are so abundant in the air and on the plants in disease seasons are not washed by rains down into contact with the newly-forming tubers, as is the case when covered thinly with soil.

Diseased Vine leaves (VITIS).—It is very evident, judging by the appearance of the affected leaves sent, that your Vines are suffering from a bad attack of mildew. This comes from various causes, commonly because the roots have gone too deep, and are in soil that is cold and devoid of proper nutriment. Exposing the tender leafage (and yours is yet quite young and tender) to sudden cold draughts of air also helps to promote the mildew. The most common remedy is found in gently damping the Vine leafage all over, then dusting with sulphur; also, if you have hot-water pipes in theinery, getting these well heated, then with a common whitewash brush coating the pipes with a mixture (in paste form) of milk, or of soft soap and sulphur, shutting the house up close. Do that after the sun has gone off. In the meantime pick off some of the worst of the leaves and burn them. Of those sent as healthy, one had become badly affected in the box. You may next winter find it needful to lift the roots of your Vines, replanting with fresh soil and much less deep.

TRADE NOTE.

THE "PATTISSON" LAWN BOOT.

This is a most useful patent boot for horses engaged on mowing lawns, and especially in the case of race and golf courses and cricket grounds. The boots are of simple construction, being made with a light foundation plate of steel



THE "PATTISSON" LAWN BOOT.

of great strength, and fitted with patent "Compactum" soles of best English sole leather and special india-rubber. The soles, being fixed to the plates, cannot get out of shape, even in the wettest weather. After outlasting considerably the best made boots of the ordinary pattern, they can be refitted with new soles (either leather alone or "Compactum"), and are then as good as new boots at little more than half their first cost. As this can be repeated several times, they are very economical in use. The boot is very easily and quickly put on (even with a fidgety horse), and, being firmly fastened to the horse's shoe by two or three turns of the heel screw, cannot slip round, as all other boots do, while the frog and fetlock are as open to the air as they would be without it, instead of being shut up in an unventilated leather bag, as when the ordinary boot is used. The screw attachment is described by users, after twelve months' experience, as "simple and perfect."

The combination of rubber and leather is very advantageous, rendering the soles more pliable, less likely to slip on the grass, and much more durable than the best leather alone. The discs, imbedded and held firmly in the leather, are made of best motor-car tyre rubber, and, being placed at the points of wear, add very greatly to the "life" of the boots. In large boots there are three discs, and in the smaller sizes two. The "Pattisson" boot is adjustable to different sized feet—a boot fitting a hoof $5\frac{1}{2}$ inches wide fitting as firmly any other between 5 inches and 6 inches, and similarly with the other sizes. An improved and ventilated bag top boot is made, which is a most important point. It is fastened on with straps in the usual way, and is fitted with the "Compactum" sole. The "Pattisson" boot can also be fitted with the outer sole made entirely of motor-car tyre rubber, in place of the leather sole and rubber discs. This rubber sole is extremely durable, and will be found very economical.

Mr. A. K. Bulley, Neston, Cheshire, writes: "If 'V. B.' (Liverpool) will write to me I shall be pleased to show him my garden, which stands in a similar position to his, and in which identical difficulties have been dealt with."

THE GARDEN.

No. 1540.—VOL. LIX.]

[MAY 25, 1901.]

THE TEMPLE SHOW.

ANOTHER triumph has been gained by the Royal Horticultural Society. Pleasant weather, beautiful exhibits, and a charming company made the show of the present year one of the most enjoyable in the history of a splendid institution. Of course, the tents were crowded to suffocation, the flowers hung their heads in the sultry atmosphere, and some groups revealed astonishing ignorance of first principles of colour association, but these things are apparently necessary evils of every great show. A canvas tent on a hot summer's day is not an ice well, and the secretary cannot make an artist of an exhibitor who is ignorant of the way to so display his flowers that the eye is not offended by unhappy mixtures of colours or an absence of free and tasteful grouping.

We have heard much of late about a big hall to celebrate the forthcoming centenary of the society. We would ask its promoters whether such a glorious show as that in the Inner Temple Gardens on Wednesday and the two following days would deepen in interest or increase in beauty in a building, however stately and well conceived for horticultural displays? The success of a summer show of the nature of this famous annual exhibition by the Royal Horticultural Society largely depends upon its pleasant surroundings, the cool grassy swards, the shade of trees, and agreeable music. Forsake the open air, fill a building with flowers, and the noise of a band in a confined space, and we venture to predict that not a tenth of the visitors that thronged the beautiful gardens this week would trouble to attend, even with a free ticket. This is not the outcome of a mere desire to listen to pretty music or evince a sentimental interest in flowers under a tent, but in the summer the most ardent horticulturist enjoys grateful surroundings to anything approaching the wearying tramp on dusty boards. This is one of the reasons of the departure of the National Rose Society from the Crystal Palace, and we predict a greater success at their forthcoming show than has been so far experienced.

The exhibitions in the Inner Temple Gardens of the Royal Horticultural Society draw crowds of pleasure-seekers and those determined to make acquaintance with rare and new plants, and for this reason they stimulate a deep love for gardening expressed in so many of the homes of England. Horticulture is becoming

a living force amongst us, not merely commercial horticulture, but the man in the street with his small patch, as well as the owners of large domains, are seeking knowledge as to the things to make beautiful the villa or the mansion. We know this from the increasing applications for assistance in our daily post, and rejoice to find so general and sincere an interest in horticultural pursuits. Exhibitions, whether general or of one particular flower, are much alike, and we find year by year groups in the same position and composed of the same kind of flowers as in seasons gone by, and this is inevitable. It is only by persistently setting forth the value of certain things that their importance is realised, but we wish individual plants received greater consideration. It is not pleasant to see interesting flowers jammed together in a way to suggest that the exhibitor had tried to transport his nursery to the show ground. Such displays are wearisome, utterly without repose, and are passed by as too distracting to linger over in a hot tent. Simplicity must be the keynote to all successful grouping. Many delightful groups were arranged of Roses and miscellaneous plants in particular, as our report testifies, and this grouping of plants so that each one tells its own tale is the most instructive and interesting.

We give unstinted praise to all concerned in the great exhibition of 1901. We need scarcely make mention of individuals, but such a company and show must have gratified the President, Sir Trevor Lawrence, Bart., the Rev. W. Wilks, the hardworking secretary and editor of the valuable journal of the society, Mr. Wright, superintendent of the show, his assistant, and all who helped to produce such a delightful result of well-directed labour. As full a report as possible is given of the proceedings, not so ample as we should have liked, but the exhibition occurring on the press day for the paper prevented a more detailed account, to be supplemented, however, in our next issue with a description of the novelties shown.

A great company of amateur and trade horticulturists crowded the historic gardens during the exhibition, and we wish for no healthier sign of the progress of gardening in our midst.

While writing of the Royal Horticultural Society, it will doubtless interest our readers to know that during the past fourteen years tremendous strides have been made, with the comfortable result of a big balance, increasing

membership, and a proper determination to ever bear in mind that for the promotion of horticulture was the society established. This wise policy, we are assured, will be followed in the future. The following information taken from the April volume of the Journal of the society is opportune at the present moment :—

A RETROSPECT—1887 to 1901.*

THE opening of a new century is a good time for considering the progress or otherwise of the society during recent years. The year 1887-88 is chosen because, first, the records and accounts which have been handed down to us from a period earlier than that are never complete, and are sometimes absolutely wanting; secondly, it was the society's last year of tenure at South Kensington; and, thirdly, its closing months gave birth to the new life and energy which have since permeated the old society.

At the commencement of 1887 the council and officers of the society were as follows: President, Sir Trevor Lawrence, Bart., M.P.; treasurer, William Haughton; secretary, William Lee; council, Colonel Beddome, Hon. and Rev. J. T. Boscawen, Colonel Trevor Clarke, Sydney Courtauld, Sir Michael Foster, F.R.S., Dr. Hogg, Sir Edmund Loder, Bart., Major Mason, George Maw, Baron Schröder, Sir William Thiselton-Dyer, K.C.M.G., and George F. Wilson, F.R.S.; assistant secretary, Captain E. L. Bax; garden superintendent, A. F. Barron.

After the rearrangement concluded at the end of that eventful year of 1887 the new council and officers were: President, Sir Trevor Lawrence, Bart., M.P.; treasurer, Dr. Morris, C.M.G.; secretary, Rev. W. Wilks, M.A.; council, Colonel Beddome, Sir Michael Foster, F.R.S., T. B. Haywood, Dr. Hogg, Sir Edmund Loder, Bart., George Paul, Baron Schröder, A. H. Smee, Sir William Thiselton-Dyer, K.C.M.G., Harry J. Veitch, George F. Wilson, F.R.S., and J. Woodbridge; assistant secretary, Charles J. Grahame; garden superintendent, A. F. Barron.

It was this council which undertook, and laid the foundation of, the regeneration of the old society, by bringing it back to its original design and limiting it strictly to a purely horticultural policy.

At the close of 1887 there appear to have been a total of 1,329 Fellows, of whom 773 were Annual (*i.e.*, subscribing) Fellows, and 556 were Life Fellows, the whole of whose commutation money had been previously spent on paying part of the South Kensington debts, and who consequently brought in no annual income whatever to the society. It is, however, only right to say that whilst the majority of these Life Fellows cared little or nothing for the horticultural policy of the society, a few of them, like Sir Trevor Lawrence, Baron Schröder, Sir Edmund Loder, Mr. G. F. Wilson, Dr. Hogg, the Earl of Ducie, Mr. Courtauld, Mr. Veitch, and others afforded very generous financial help to save the society from the absolute ruin which stared it in the face.

* [This note was originally drawn up simply for the information of a committee of the council, but having been laid upon the table and considered by them, was ordered by the president and council to be inserted in the next issue of the society's Journal. Its origin may account for its possibly too great conciseness.—W. W.]

How greatly the minority of the Fellows at that time resented the leaving South Kensington, and how little they appreciated the return to a purely horticultural policy, is shown by the fact that at the end of 1887 and beginning of 1888 no less than 221 of them resigned, leaving a total of only 1,108 Fellows, of whom 556 were Life Fellows and only 552 were subscribing ones.

Of the 1,329 Fellows in 1887 only 773, as has been said, paid any subscription, and the subscription income of the society during that year (1887) amounted to only £1,938, which was raised to a total income for the year of £2,894 by means of £522 from sale of garden produce, and other miscellaneous receipts from the Indian and Colonial Exhibition, &c. The general result being that the new council had to take over a debt of £1,152; a general annual expenditure (which could not possibly be much reduced) of £3,500; and a subscription income of less than £2,000 a year.

Such was briefly the position of affairs at the end of 1887 when the newly-constituted council and officers undertook the apparently hopeless task of rescuing the old society and reconstituting it upon its original and purely horticultural basis. And that their task was not an easy or a cheerful one may be gathered from the fact already mentioned that out of the small number of 773 subscribing Fellows, on whom alone they could depend for income, no less than 221 at once resigned!

Bearing in mind, then, the three chief difficulties in the council's way—(1) a debt of £1,152; (2) a number of Life Fellows from whom no annual income whatsoever accrued—a number in the early days of 1888 actually exceeding the number of subscribing Fellows; (3) an irreducible annual expenditure of £1,500 a year more than the annual subscription income—bearing these three chief difficulties in mind, glance at the following table of figures and judge of the work of the council during the twelve years that have passed away since then:—

Year.	Expenditure.	Annual Increase or Decrease of Expenditure.	Income.	Annual Increase or Decrease of Income.	Investments.*	Annual Increase or Decrease of Investments.
£	£	£	£	£	£	£
1887 ..	3,577 ..	—	2,894 ..	—	11,152 ..	—
1888 ..	3,412 ..	\$165 ..	3,617 ..	723 ..	—	Debt paid off.
1889 ..	3,960 ..	\$548 ..	3,520 ..	\$97 ..	—	—
1890 ..	3,866 ..	\$94 ..	4,102 ..	\$582 ..	—	—
1891 ..	4,182 ..	\$316 ..	4,439 ..	\$337 ..	—	—
1892 ..	4,872 ..	\$690 ..	4,873 ..	\$434 ..	479 ..	\$479
1893 ..	5,193 ..	\$321 ..	5,591 ..	\$718 ..	479 ..	—
1894 ..	5,076 ..	\$117 ..	5,550 ..	\$41 ..	975 ..	\$496
1895 ..	5,073 ..	\$3 ..	5,638 ..	\$88 ..	1,768 ..	\$793
1896 ..	5,783 ..	\$715 ..	5,944 ..	\$306 ..	2,325 ..	\$537
1897 ..	5,481 ..	\$307 ..	6,303 ..	\$359 ..	2,325 ..	—
1898 ..	5,810 ..	\$329 ..	7,104 ..	\$801 ..	3,691 ..	\$1,366
1899 ..	6,069 ..	\$259 ..	7,820 ..	\$716 ..	6,154 ..	\$2,463
1900 ..	6,553 ..	\$484 ..	8,193 ..	\$373 ..	8,156 ..	\$2,002
1901 ..	—	—	—	—	10,237 ..	\$2,081

* The Davis and Parry Legacies, amounting to £2,122, are not included in the investments in this table, as they have no bearing on the fluctuations of the society's financial position. † Debt. ‡ Increase. § Decrease.

The increase in the number of Fellows—there has been no decrease since 1887, in which year it was 235; for even the resignation of 221 in the early part of 1888 was more than balanced by the influx of new Fellows later in the same year—the annual increase has not been included in the above table, because it would involve an enormous amount of checking and counter-checking of the figures. Suffice it to say that from a total of 1,108 Fellows in 1888, of whom 556 were Life Fellows of the old régime (i.e., whose commutation money had been previously spent), the number has steadily increased, until on January 1, 1901, we have—(1) the debt of £1,152 wiped off; (2) an income of £8,000 a year; (3) the society's *Journal*, which had fallen into abeyance, revived; (4) a sum of £10,237 invested—not including the £2,122 of the Davis and Parry Trusts; (5) 4,750 Fellows, &c., of whom only 250 are Life Fellows of the old régime; and (6) notwithstanding the enormous increase in the number of Fellows, and of clerical work in the preparation of the *Journal*, general correspondence, office work, &c., the office staff, which in 1887 consumed 17½ per cent. of the society's income, in 1900 only required 8½ per cent.

The president and council may, we think, look back with something more than satisfaction on the success which has crowned their efforts, and their best hope for their successors for the next twelve years must be that the year 1913 may show as marked an improvement in the prosperity of the society over 1901 as 1901 does over the commencement of 1888.

The following form the council and chief officers to-day:—President, Sir Trevor Lawrence, Bart., V.M.H.; vice-presidents, the Right Hon. the Earl of Ducie, the Right Hon. Lord Rothschild, the Right Hon. Joseph Chamberlain, M.P., Baron Sir Henry Schröder, Bart., V.M.H., and Sir Frederick Wigan, Bart., M.P.; treasurer, J. Gurney Fowler; council, John T. Bennett-Poe, Rev. Hugh Berners, M.A., George Bunyard, V.M.H., Captain G. Lindsay Holford, C.I.E., M.V.O., James Hudson, V.M.H., the Right Hon. the Earl of Ilchester, Sir John T. D. Llewelyn, Bart., Frederick G. Lloyd, William Marshall, Henry B. May, Alfred H. Pearson, Charles E. Shea, and Harry J. Veitch, F.L.S.; professor of botany, Rev. George Henslow, M.A., V.M.H.; consulting chemist, Dr. Augustus Voelcker, M.A.; foreign corresponding secretary, Maxwell T. Masters, M.D., F.R.S.; secretary, Rev. William Wilks, M.A.; garden superintendent, S. T. Wright; cashier, Frank Reader.

RIVIERA NOTES.

AMONG the many new Roses that are annually sent out it is increasingly difficult to determine the first season or two how far they are real additions, but I find individually one or two that are most desirable among the Teas. First of all I must mention Antoine Rivoire as most valuable in every way; a white Tea Rose shading to pink, of the finest habit and size and freedom of bloom, it must gradually find its way everywhere both as a show and a garden Rose.

Mr. George Paul's Hybrid Tea Lady Battersea perhaps comes second, and contrasts admirably in colour, while the habit is the same. It is, however, not so truly double and lasting as A. Rivoire, but the pair are indispensable.

Last year I spoke much of that good red garden Rose Grüss an Teplitz. It is useful as an addition to semi-climbers or as a bedding Rose, but it is not much use for cutting. W. Paul's Pink Rover is another Rose that deserves a place in any garden. It is really a climbing Malmaison, and I have by my side blooms of the two Roses that would be undistinguishable save for a little deeper pink in the heart and a still more powerful otto-of-rose scent. This Rose bloomed so well in the winter that it deserves a place under glass in northern gardens. For walls of 6 feet or more no Rose is more decorative than the old General Schablikine,



CLEMATIS PRINCESS OF WALES AT THE TEMPLE SHOW.
(Exhibited by Messrs. Jackman and Son, Woking.)

and for cut bloom Papa Gontier still holds its own among the rose-reds.

Countess Festetics Hamilton is a good decorative bush Rose, but its flowers refuse to live in water, so that prevents its being quite first class.

So far I have not bloomed any new yellow Rose that seems a real addition. What a treasure a yellow Rose like Antoine Rivoire would be!

Veronica hulkeana makes such a mass of feathery lavender bloom that with scarlet Heuchera in front as a contrast it is quite a feature among the mass of shrubs blooming just now.

Lemoine's Hybrid Deutzias are great additions to gardens in this part of the world, and I should think they are hardy enough in English gardens; they are certainly well worth a trial.

E. H. WOODALL.

NOTES OF THE WEEK.

Lathyrus pubescens.—I have to thank the editors of THE GARDEN for letting me see the flowering spray of *Lathyrus pubescens* as grown in the garden of Mr. Taylor, at Inveresk. In drying, the blooms have apparently become rather deeper in their colour, but from the foliage and the character of the flowers I have no hesitation in saying that Mr. Taylor's plant is the same as that figured in THE GARDEN of October 29, 1898, from flowers sent from my garden here. I am particularly gratified that another northern grower has been successful with it, and I hope the flowers grown outdoors will do well with Mr. Taylor also. I know that some good gardeners have had some difficulty with it.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Two beautiful spring flowers.—In the nurseries of Messrs. W. Clibran and Son, Altrincham, Cheshire, we recently noticed plants of *Arabis alpina* fl. pl. Snowdrift flowering particularly well, and were assured they had made a brave show for some weeks past. The flowers of this pretty variety are double, as will be seen by its name, a pure white and very freely produced, and evidently last over a long period. *Aubrietia* Dr. Mules, also now in flower at Altrincham, is undoubtedly the richest-coloured *Aubrietia* we yet have seen. The flowers are a splendid purple, and the plant, which is a vigorous grower, will be invaluable for the rock garden and spring beds and borders.

Cannas for bedding.—The comparatively new varieties of Cannas are among the most beautiful plants we have for summer bedding, yet they do not appear to be so well known as they deserve. This may be owing to the fact that they are not treated properly. In the first place, they should be started as early in the year as possible, so that strong plants may be established before the time for planting out, or plants that have been grown in pots the previous season may be kept in a cool house through the winter, and with just sufficient water to keep the roots active, they will

The pollen falls directly on to the stigmatic orifice. The flower is thus perfectly adapted to secure self-fertilisation. The plants are also provided with the usual cleistogamous buds. In these there are five minute petals, five anthers all alike without tails, forming a star-like group upon the summit of the ovary. The stigma is short, truncated, and concealed beneath the anthers, the pollen of which enters the stigma without the anthers dehiscing by the tubes penetrating them along the lines of dehiscence in normal anthers. Mr. Henslow showed plants of the North American species, *V. cucullata*, &c., with cleistogamous buds, apparently indicating the fact that these had become a specific character before a world-wide diffusion of the germs had taken place.

Herbaceous Calceolarias.—We often hear it said that these plants are difficult for amateurs to manage, yet it is quite possible for good results to be obtained, even where one greenhouse has to accommodate a great variety of subjects, but we have rarely seen this better demonstrated than at Caisteal Tuath, Brockley, where Mr. R. P. Dunn, the owner, is his own gardener, and it is quite evident that not only the Calceolarias, but all other subjects, receive very careful and regular attention. The Calceolarias have bright fresh green foliage and large heads of bloom. Mr. Dunn may well feel proud of his achievement.—A.

"Kent" water unsuitable for plants.—Mr. E. Roberts, F.R.H.S., of Park Lodge, Eltham, writes as follows to the Scientific Committee of the Royal Horticultural Society:—"Our water from the Kent Waterworks is not at all a fit food for our plants. I am in the habit of treating it thus: I first add 1lb. caustic lime to 1,000 gallons to neutralise the calcium carbonate, and then add 6oz. amm. sulph., 6oz. potassic nitrate, and 4oz. amm. phosph. I shall be glad to know if this treatment can be improved upon, and if it is suitable for Orchids generally, including epiphytal." Professor A. H. Church, who undertook to examine the water, reports as follows:—"In reference to Mr. Roberts's letter, I should like to make a few remarks. I have looked up the older analyses of this water, because the official results do not now include determinations of sulphates and of calcium in its several salts. After adding the caustic lime (preferably after slaking, and in the form of cream), the whole bulk of treated water is, I presume, allowed to rest, that it may deposit the separated carbonate of lime. Then to the clear liquid the salts named should be added. I think the quantities named reasonable. Anyhow, the prepared water is a mild stimulant and general plant food. Owing to the partial removal of the lime salts, it ought not to spot the foliage with a white deposit. I should not like to say anything as to its peculiar suitability to Orchids, terrestrial or epiphytic, but I think its use cannot be injurious."

Gloriosa superba.—Occasionally we meet with *Gloriosa superba* growing and flowering freely, trained to the trellis near the glass roof. The plant delights in a brisk moist atmosphere, and must have warm atmosphere at all times. When growing freely a little weak manure liquid is very helpful, and an occasional application of artificial manure will encourage a sturdy free growth. The best soil to use is a mixture of rough peat and fibrous sandy loam, charcoal, and plenty of grit, giving plenty of water—soft if possible—during the growing period. Flowers are produced most abundantly if the shoots are trained somewhat thinly near to the glass, shading slightly during hot weather. Why some people fail to grow these plants well is through lack of heat and moisture when flowering is over. They should be gradually dried down, giving less water, somewhat in the same way as the *Caladium* is treated. After drying them off the roots should be kept and

wintered in a warm temperature. I have repeatedly observed many failures in keeping the tubers in good condition for starting into growth in spring through storing them in a low temperature and neglecting to dry them after the beauty of the plants is over for the season.—H. MARKHAM, *Wrotham Park, Barnet.*

The spring of 1901.—It is gratifying to record that in this neighbourhood we have not experienced frost sufficient to injure vegetation in the slightest degree, and at the time of writing (May 13) all fruits, with the exception of Apples, have come safely through the setting time. Amongst other things the tender foliage and catkins of *Pterocarya caucasica* so often injured are unscathed. The appearance of this tree is likely to be unique this summer so far as the enormous number of catkins are concerned, but I am doubtful if the greatly increased weight may not cause splitting of the lower branches. Apricots, dessert Cherries, and Plums (on south-east wall) promise fine crops, and the Plum season will be well sustained, as early varieties like *Prolific* and *Favourite*, and late, as *Golden Drop*, *Late Red*, and *Ichworth Imperatrice*, are all good. I have seen a much heavier set of Peaches and Nectarines, but there is sufficient to furnish a very fair crop. Pears are somewhat thin, but, as with the Peaches, there will probably be quite enough. Apples seem likely to be partial. There was a heavy crop last year on three parts of the trees, and on these there is little bloom; some varieties, however, show well, and a lot of large bush trees shifted in the autumn of 1899 promise a heavy crop. Flowering shrubs with few exceptions have been, and are, very fine. One of the sights of the garden just now is a *Wistaria* covering close on 2,000 square feet of wall, and simply a dense mass of flower. There is a large border in front of this in which are occasional plants of scarlet *Rhododendron*, *Exochorda grandiflora*, white *Lilac*, &c., also in full bloom, and the effect produced is very pleasing. Azaleas promise a brave show, and in a few days will be at their best.—E. BURRELL, *West Surrey.*

Narcissus Mme. de Graaff.—This is certainly one of the loveliest of the *Narcissi*. Not only is it wonderful in beauty even among *Daffodils*, but its rapid increase is also astonishing. I had three bulbs last year. They were planted separately in pots. From these three bulbs there came this spring no less than seven flowers. One of the bulbs had four excellent flowers, another two, and the third one bloom. The first case must, I suppose, be very exceptional. I have never seen anything like it, although I have nearly eighty varieties of *Narcissi*. One of the most free flowering varieties that I have is *Mrs. Langtry*. It is also very beautiful. THE GARDEN of July 24, 1897, contains an admirable woodcut of *Mme. de Graaff* from a photograph taken by Mr. J. D. Pearson, Chilwell, Notts. Mr. Pearson speaks of its wonderfully free blooming habit, and I think that my experience fully bears out what he says.—REV. W. W. FLEMING, *Coolfin, Portlaw, County Waterford.*

Purchase of Hogarth's house at Chiswick.—We hope the efforts of the committee to preserve Hogarth's interesting house at Chiswick will be successful. A sum of at least £1,500 is required, no large amount for so worthy an object. The chairman of the committee is Mr. George C. Haité, and the hon. secretary Mr. W. H. Whitear, 4, Ravenscroft Road, Chiswick.

Iris susiana failing.—I was very pleased to see this beautiful *Iris* mentioned in THE GARDEN on May 11. I think it is one of the most interesting of its class, and not nearly so well known as it should be. I have grown this plant for many years and have frequently flowered it. I only wish I could grow it successfully. My soil is of a stiff nature with a clay subsoil. Sometimes my plants grow freely, then suddenly go off, and many of them die altogether. If any of your correspondents can throw any light upon the subject and tell me how to grow this interesting plant I should feel glad, and, doubtless, many others would also.—T. B. F.



PEONY JAMES KELWAY.

(Exhibited at the Temple Show. See report.)

continue to grow, and though the old stems may die down they will be followed by fresh suckers. They like a rich, rather heavy, loamy soil, and if planted in clumps they protect each other and will keep up a bright succession of bloom until frost cuts them down in the autumn.—A. H.

Royal Horticultural Society.—Her Gracious Majesty Queen Alexandra has consented to become patron of the Royal Horticultural Society in place of the late Queen Victoria.

Violets, self-fertilising.—Mr. W. J. James, Woodside, Farnham Royal, Slough, sent to a recent meeting of the Royal Horticultural Society some white Violets (*Viola odorata*) which produced capsules. As a rule the purple Violet sets no seed in this country, though it does in South Europe. On examination it was found that the flowers became self-fertilising, because the beak-like extremity of the style with its stigmatic orifice was not only strongly curved upwards (because the flower is inverted), instead of being at right angles with the style, but was completely included within the connivent connectives. The connectives were all wrapped round the style, preventing the escape of the pollen, which is then caught by the spoon-like two lowermost connectives.

M. J. Sallier's nursery, Neuilly, near Paris.—It is interesting to see in flower young plants of *Clianthus Dampieri*, *Lopezia miniata*, *Streptosolon Jamesoni*, *Bougainvillea sanderiana*, and of the old-fashioned but always beautiful *Thysacanthus rutilans*, *Browallia speciosa*, *Manettia bicolor*, and various other stove and greenhouse plants, which flower freely and are very effective. The roof of some of the greenhouses is covered with a splendid foliage climber, *Vitis veroueriana*, a native of Tonkin, with large palmate five-fingered leaves. It is of very rapid growth, shoots of 10 feet long in six weeks having been recorded by M. Sallier, and is never attacked by any insects. In the same establishment we also note as a basket plant for hanging in a conservatory or greenhouse *Begonia foliosa*, which from its foliage alone is very decorative, and *Begonia Le Vesuve* issue from *B. fuchsoides*, from which it differs by its smaller stature, its neat and compact habit, and the bright scarlet colour of its flowers, which are produced in great abundance. This plant was used with great success for bedding out last year in France.—G. S.

Fine-leaved Begonias in France.—Great advances have been made by French raisers in the production of really distinct and beautiful forms, resulting from intercrossing the varieties of *B. Rex* with *B. decora*, and also with *B. diadema*. Messrs. E. Cappe and fils of Le Vesinet, near Paris, have been most fortunate in that respect, and many of their productions are perfect gems. The section of *B. Rex* × *decora* comprises compact growing, well-branched forms, with leaves of medium dimensions, but with colours equal to those of any *Sonerillas* or *Bertolonias*, yet they are vigorous, and require no more attention than the ordinary forms of *B. Rex*. Several varieties sent out by the said firm some two or three years ago have been sufficient to establish their reputation. These are: *Ami Chantrier*, *Ami Page*, *Chatoyant*, *Grande Duchess Olga*, *James Laing*, *Mme. Aug. Chantin*, *Mlle. Marie Duval*, *President H. de Vilmorin*, *President Viger*, *Professeur Bazin*, *Secrétaire D. Bois*, and several others. This season's novelties include: *Mme. Emile Cappe*, a very charming variety of good form and habit, with leaves of medium size, speckled all over with small silver flakes on a ground of a peculiar rosy colour. It is when grown in a shady part of the house that this splendid and distinct plant attains its fullest beauty. *Mlle. Lucie Faure*, a remarkably pretty plant, with roundish leaves of medium dimensions with a peculiar large silvery marking, surrounded with green and edged with deep purple, sprinkled all over with small white dots; the white median nerves shaded with rosy purple are very effective. Perfection: This is a particularly vigorous form, with medium-sized leaves deeply dented, much in the shape of Vine leaves, ground dark green, ornamented with purple and slate coloured markings, relieved by the median nerves of a very pretty light green colour. The section *Rex* × *diadema* has produced plants of a more robust character, and all very decorative; some, such as *Burgomaster Poppel* and *Mme. Alamagny* are already well known, and are so much appreciated by the Parisian public that some of the market growers are producing them in very large quantities; they are all the more valuable for indoor decoration that they are very robust and capable of making large plants in very small pots, while the markings of their foliage, which in most cases is large and deeply lacinated, are equal to those of the best forms of *B. Rex*, from which they are issue. Among the most distinct and best varieties belonging to this group we note: *Gloire du Vesinet*, *Louis Cappe*, *Mme. Treyve*, *President Deviolaine*, and *President A. Truffaut*, all of which in point of colouring rival the beautiful and well known *Begonia Rex* *Princess Charles of Denmark*, sent out by Messrs. J. Veitch and Sons two years ago.—G. SCHNEIDER.

Tulipa gesneriana Fairy Queen.—My first acquaintance with this Tulip dates from the time of a visit to the charming gardens of Straffan, County Kildare, when Mr. Bedford had some groups of this quiet coloured but pleasing

variety. I afterwards saw it at Glasnevin, and lost no possible time in adding it to my garden flowers. Since that time I have been growing it as a herbaceous perennial, and have left it in the soil from year to year—a test to which a good many Tulips do not respond satisfactorily. The result has been that it is increasing very freely, and is blooming well in its station to the east side of a large *Rhododendron*, but out of reach of its roots. Here there are several of its charming flowers, which open a kind of heliotrope and yellow and die off a deep fawn colour. The colours are not such as would appeal to all, but with a setting of greenery, such as I like about all Tulips, they are delightful and a welcome change from the bright and vivid hues displayed by others of the race. Some of these may truly be called, in the words of the poet, "fops of the parterre," but *Fairy Queen* reminds one of the pictures of some Quaker maid, such as we read of in books.—S. ARNOTT.

Tulipa gesneriana ixioides.—This charming Tulip is at present in bloom in my garden, where it is much admired by the few visitors who know the wide range of beauty which exists in the varieties of *T. gesneriana*. It grows about 2 feet high, and, although its soft canary-yellow flowers are effective and pretty at a little distance, it is when one looks into its open cup that its beauty can best be seen. It is only then that one can see the deep black base which is so effective and which makes the flower so distinct from others of its class with yellow flowers.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Tulipa gesneriana The Fawn.—Those who can appreciate the quiet colouring of some of the usually brilliant Tulips will assuredly admire this beautiful variety, now in flower in my garden. I believe it has been called *The Fawn*, from its colouring resembling that of the animal of the name, and one can certainly recognise something of it in the delicate tints which exist in the colouring, although I see a closer resemblance to the alternative description in the catalogues as resembling the plumage of the dove. It certainly reminds one of the turtle dove in the delicate soft fawn colouring, which is impossible to express in words. It is a very beautiful Tulip, which may, perhaps, not be valued by those who can only appreciate brilliancy—very desirable also—and who care not for quiet colours in flowers as well. Those who are also pleased with soft, delicate tints and pencillings will admire *The Fawn*.—S. A.

Arabis albidiflore-pleno.—The longer one grows this comparative novelty among hardy flowers the more does one appreciate the addition it has made to our garden favourites. As one's plants grow in size we can the better see how great an acquisition it is, and how much it may be made use of. It is, assuredly, not a form of *A. alpina*, under which name it was sent out, but a variety of the more vigorous *A. albidiflore*, although the differences between these two species are hardly recognised in ordinary gardening. Even for a form of *A. albidiflore*, it is a remarkably vigorous plant, and as one observes the fine spikes of bloom it produces one can hardly think it possible for these to have evolved from the original species. I am not clear that the French popular name of *Corbeille d'Argent* which has been given to it is a suitable one for these little spires of double flowers, but whether or not we agree with that name we can hardly fail to admire a plant so useful for the border, the rockery, or for cut flowers. I have a fine plant on a rockery which I had hoped to have photographed before it was past its best, but unfortunately bad weather prevented the operator who had kindly offered to do it from coming in time. To do it justice it should be photographed when growing on a rockery.—A READER.

Pæonia wittmanniana.—In October, 1893, the botanist-traveller Alboff brought me from Abkhazia in the Caucasus a packet of *Pæonia* seed that he had labelled "*P. wittmanniana*." They were sown at once and germinated in the spring of 1895, that is to say, sixteen months after sowing. The young plants grew strongly but did not bloom till this spring, each producing one flower; later they will bear a greater number.

The flower, instead of being of the pale yellow colour of *P. wittmanniana* of Steven, is pure white, a little yellowish at the base of the petals; moreover, while the undersides of the leaves of *P. wittmanniana* should be pubescent, these are glabrous and shining, and only slightly downy on the ribs. Also the carpels, instead of bending horizontally as would be expected in the case of a *P. corallina*, which the plant in some way resembles, are carried upright and parallel, and instead of being glabrous like those of *wittmanniana* are glandular tomentose. Can it be a variety of *P. corallina* with white flowers and upright carpels, or is it a white flowered *P. wittmanniana* with leaves glabrous beneath and hairy carpels? For the present I do not know. But the plant is so handsome and so singular that it well deserves mention in *THE GARDEN*. I should add that the sepals are distinctly foliaceous, often looking like leaflets, though narrower. The plant has been sent by us to several English gardens as *P. wittmanniana*, Alboff's mark of interrogation having been placed on the packet, because he thought the seeds might have been mixed. As the foliage had the usual very characteristic appearance of *wittmanniana* we had no reason to suppose that it was any other plant. Its near relative *P. triternata*, with similar leaves, has red-brown stalks, which this plant has not. We take this opportunity of informing those who have received and flowered the plant that it may be the subject of a new species or at any rate of a new variety. It is much to be regretted that Alboff, the "father" of *Campanula mirabilis*, is no longer among us to determine its identity.—HENRY CORREVEON, *Geneva*.

Nicholson's Dictionary of Gardening.—This is one of the best known, and rightly so, of gardening books, and we are much interested in knowing that the publisher, Mr. L. Upcott Gill, 170, Strand, London, is issuing it on the principle of monthly instalments, so that by putting 9s. down one can possess the work, and the balance in instalments, as stated. The price of the book is 4 guineas, and the edition now being offered includes the new century supplement, which contains particulars of all the most recent floral introductions and other matters, bringing the entire work thoroughly up to date.

Gardening at Earl's Court Exhibition.—The grounds in connection with the Military Exhibition now being held at Earl's Court present a fresh and attractive appearance, much of the furnishing of the beds, &c., being entrusted to the well-known firm of Messrs. John Laing and Sons, Forest Hill. In what are called the Imperial Gardens *Marguerites* make an effective display, while in the *Pelargonium* way that fine bedder Henry Jacoby (crimson-maroon) was noted. *F. V. Raspail Improved* is a deep orange-scarlet, and a great improvement on the old variety. That very old, yet one of the best tricolors, *Mrs. Pollock*, is in beauty here, and salmon-flowered varieties complete the *Pelargonium* record in this section and the chief flowering plants. Here there is a design having a groundwork of *Pyrethrums* and blue *Lobelias* forming the letters Edward VII. and 1901 worked out with *Coleus Verschaffelti*, *Alternantheras*, and *Echeverias*. Dotted about the beds are specimen plants of *Dracana australis*, *D. indivisa*, *D. rubra*, and *Phoenix dactylifera*. In the Queen's Court the beds facing the Ducal Hall are planted with *Marguerites* and scarlet and salmon-coloured *Pelargoniums*. In the central beds the letters God bless the King are worked with *Echeverias* in a groundwork of *Alternantheras*, with a specimen Palm in the centre. The long borders near the very much patronised water chute are planted with *Marguerites*, scarlet *Pelargoniums*, *Lobelias*, and *Pyrethrum*. In *Elysia* the beds are devoted to scarlet, salmon, and white *Pelargoniums*, *Marguerites*, *Lobelias*, and *Pyrethrum*. The weather up to now has not been conducive to rapid floral development, but the present promise of brighter skies and warmer suns will result in such matters being greatly improved upon. Messrs. Laing have also supplied plants for decorating various parts of the exhibition, consisting of specimen Palms, also other foliage and flowering plants.—Quo.

Ixia crateroides.—Out of a fine collection of *Ixias* recently inspected the above stood out so distinct in colour, as I think, to justify me in calling the attention of readers to its merits. It is an old kind, but as I have only noticed it twice during ten years it would appear to be none too extensively grown, neglect through want of knowledge rather than appreciation of its merits, for its exceptionally brilliant rose-coloured blossoms must inevitably command the admiration of all who see them. Planted in 4½-inch pots in October, the bulbs I saw had, by aid of a cold frame and cool greenhouse, been brought into bloom by the middle of April.—E. J. CASTLE.

Tulipa Schrenkii.—One of the most striking things in the beds in the Royal Botanic Gardens of Edinburgh at the end of April was *Tulipa Schrenkii*, which is, I observe, referred to as *T. gesneriana* in the "Index Kewensis," but which seems to deserve a note or two, as it is a form not usually to be met with, and one which I cannot at present find in any of my catalogues. It is both brilliant and beautiful with its pretty combination of colours and its good habit of growth and large flowers. Mr. Shearer (who kindly accompanied me round the gardens) and I had some difficulty in determining what the colours were, but we came to the conclusion that white and vermilion expressed them more nearly than anything else. The stripes or bands and flushings of the vermilion on the white were very pleasing, and showed how much variety we can find in that wonderfully divergent species *T. gesneriana*. Regel is, I see, the authority for the name of *Schrenkii*.—S. ARNOTT.

Lælio-Cattleya Bertha (*Lælia grandis* × *Cattleya Schröderæ*).—Although regarded as inferior to *Lælia tenebrosa*, sometimes termed a variety of *Lælia grandis*, the raiser of *L.-C. Bertha* had evidently given careful thought to the result likely to be produced by crossing the species with *Cattleya Schröderæ*, rightly thinking that the dusky colour of *L. tenebrosa* would be modified, but not improved, by the lighter colouring of *Cattleya Schröderæ*, which would, however, blend well with *Lælia grandis*. That his calculations were well founded is proved by the charm of this hybrid. The shape and sweet odour peculiar to *Cattleya Schröderæ* are well preserved, and except that the shade is a little darker, the rose-blush hue of the sepals and petals remains the same, but the round-frilled lip of the hybrid evidently gains much colour from the *Lælia* parent. From near the apex of the column to the tip extends an elongated blotch of rich crimson, darkest on the principal veins, broken by a soft warm rose, which shade spreads over the remainder of the lip, except at the extreme margin, the frill of which is nearly white. The throat, on both inner and outer surfaces, is white, gaining a rose tint as it merges with the lip. This is now in flower with Mr. R. H. Measures.

Lælio-Cattleya elegans var. Mrs. R. H. Measures.—This exquisite white form of *Lælio-Cattleya elegans* is one of the best of the many "Woodland's" gems, and has been named in compliment to Mrs. R. H. Measures. Apart from its striking beauty, it is of especial interest on account of its probably complex parentage. As is well known, the dark forms of *Lælio-Cattleya elegans* are natural hybrids between *Lælia purpurata* and *Cattleya Leopoldi*, but with it occurs another natural hybrid, also known as *L.-C. elegans*, but correctly as *L.-C. schilleriana*, between *Cattleya intermedia* and *Lælia purpurata*. The variety under notice resembles in shape and size a fine form of the true *L.-C. elegans*, but in all probability, judging by the colour, is really a secondary hybrid between *L.-C. schilleriana* and a very light form of either *L.-C. elegans* or *L. purpurata*; further the original *L.-C. schilleriana* must have been almost white, perhaps itself derived from *L. purpurata* crossed with a white *intermedia*. There is no other supposition unless it is the issue of a white *Lælia purpurata* and *L.-C. schilleriana*. This is quite feasible, and would account for its charming colour. The sepals and petals are of the purest white, and though of more substance than those of *Lælia purpurata*, follow

that species closely in size and contour. The lip, with the exception of the front lobe, the apices of the side lobes, and a suspicion of lilac along the edges of the latter organs, is absolutely white. The areas indicated are all delicately suffused with lilac, the front lobe radiated with veins of rose, darkest centrally, the colour terminating flush with the sinus between the front and each side lobe, meeting with a light shade of lemon-yellow, which, sparsely lined with rose, extends beneath the rose-tinted column. Should the supposed parentage of this fine hybrid ever be proved, it could not be classed with the general run of *L.-C. elegans*, but its affinity to that hybrid is evidently so close that it seems advisable to allow the same to stand meanwhile.

Azalea amœna.—Though botanically speaking but a variety of the Indian *Azalea* (*A. indica*), this is very widely removed from the generally accepted type of the species, hence it is usually known in gardens as *Azalea amœna*. Though frequently grown as a greenhouse plant, it is far more striking when treated as a hardy shrub, as under such conditions the flowers are much brighter in tint than if produced under glass. The natural habit of this *Azalea* is to push out its branches in a somewhat flattened manner, and being thickly clothed with small Box-like leaves of an intensely deep green, it forms, irrespective of blossoms, a decidedly ornamental evergreen. The flowers are of a rich purple tint, and borne in such profusion that the entire plant is quite a mass of bloom. A bed of this *Azalea* near the entrance gates at Kew is just now at its best, and well shows its value as a hardy flowering shrub. The varieties raised between this *Azalea* and the larger-flowered forms of the Indian section are rather less hardy, but in a particularly sheltered spot or in a cool greenhouse they are very pleasing. As the genus *Azalea* is now by the latest botanical authorities merged into that of *Rhododendron*, the correct name of the plant in question should be, I suppose, *R. indicum amœnum*, but with most people it is likely to retain its older title.—T.

Primula frondosa in Edinburgh.—A recent visit to the Edinburgh Royal Botanic Gardens gave, as usual, much interest to one who admires alpine flowers. The Edinburgh collection is not only improving in the variety it possesses, but also because of the efforts made to show the plants in the most effective manner by grouping together a number of specimens of the same species. Particularly noticeable was a mass of *Primula frondosa* in the rock garden. These were remarkably healthy and vigorous, and were showing their pretty flowers very freely. They were high up on the rockery and in a full western exposure, where they received the sun for the greater part of the day. It was worthy of remark that the plants which were most exposed to the sun were the most vigorous and attractive. Such a position does not seem likely to suit this *Primula*, but much depends upon the soil and its capability for retaining moisture. Dry as looked the soil at Edinburgh, it was seen, on examining it, that beneath the grit which was on the surface the plants had a good holding loam and plenty of moisture. I have never seen this *Primula* do better, and it formed a pretty picture with the many pretty purple flowers on the rather mealy foliage.—S. ARNOTT.

Tulips in Ireland.—The Ard Cairn collection of late single Tulips (Mr. Hartland's, at Cork) is now reaching perfection. There are over 200 varieties, besides Darwins or "Dutch Lates."—VISITOR.

Mr. J. Cypher's Orchids.—A visit to Mr. J. Cypher's Orchid establishment, Cheltenham, is always worth a long journey, but it is especially so at the present time, because there is a greater variety in flower just now than at any other season of the year. On looking through the various houses recently I was amazed at the large quantity of *Odontoglossum crispum* in flower, some of which were very choice. I saw several pure white, and others splendidly spotted. There were also several magnificent plants of *Oncidium marshallianum* in bloom, and on one of the massive

branched spikes I counted sixty very large flowers. There was also one very large spike with clear yellow flowers without the usual brown bars on the petals, which I think is of rare occurrence. Many *Dendrobiums* were in flower, mostly of the choicer kinds of nobile, viz., *Nobilium* and its pure white form. Of course, one expected to find a choice lot of *Lælia purpurata*. There were many very fine forms which were being kept for the Temple show. A very striking hybrid was *Dendrobium Nestor*.—VISITOR.

Polyanthuses.—These favourite spring flowers are just now at their best. A variety of shades makes a splendid display, while the delicate perfume is suggestive of spring. They are not always planted or associated so effectively as they might be, massing in different shades for instance being preferable to indiscriminate mixing, and one is fairly certain of the colour likely to develop in seedlings if care be taken in the selection. When, too, other spring flowers are mixed with them, like scarlet or white Tulips or yellow Daffodils, a somewhat patchy effect is produced. I much prefer just a few taller things standing out amongst them in effective contrast, shapely bushes, for instance of *Spiræa prunifolia* fl.-pl., *S. Thunbergi*, or *Magnolia stellata* contrast admirably with dark Polyanthus, while a good foil to the yellow and sulphur shades may be found in bright foliaged *Pæonies* like *Broteri* and *coriacea*. Beds arranged in these several ways can remain for at least three years, and the Polyanthus will strengthen without deterioration of truss or individual bloom if the ground is thoroughly well made at planting time. The shrubs can be kept within bounds by judicious annual pruning. I looked through the beds and clumps recently and marked plants from which seed is to be saved. They come very true without isolating the several different shades, and the good strain is well maintained if care is taken to select large well-formed flowers with a great depth of colour. The seedlings from this season's sowing are now well above the ground.—E. BURRELL, Clarendon.

Arabis alpina fl.-pl.—This is a lovely spring flower, and fully deserved the award of merit given it by the committee of the Royal Horticultural Society in April, 1900. It is quite as free as the single form, equally pure in shade, and much more enduring. In the distance the same sheet of white is noticed with little difference in form, as it is of dwarf habit, but a closer inspection gives one the idea of a miniature white Stock. For the rock garden or for the front of borders to group with other things it can be thoroughly recommended to all lovers of hardy plants. I noticed a charming effect the other day where it was associated with bold clumps of *Aubrietia Royal Purple*.—E. BURRELL.

Rose Mrs. R. G. Sharman Crawford.—This fine Rose is one of the best if not the best pink Rose grown. It is good in summer, and it is also good late in the year. Few Hybrid Perpetual Roses continue to bloom so late. As a pot Rose it is superb, the fine imbricated form and beautiful soft colouring of its flowers being brought out prominently upon pot-grown plants, and the grand examples exhibited at the Drill Hall recently were equal to the blooms of summer. It is not only free-flowering, but also very prolific, and I may say it is a useful Rose for all purposes, be it as a bush or standard, pillar, or pegged down. It strikes freely from cuttings inserted in September, and this freedom in rooting leads me to suspect that Victor Verdier or one of its race is the parent of the variety under notice, especially as there is, unfortunately, a lack of fragrance. There is rather a tendency to mildew in the autumn, sometimes quite disfiguring the growths, otherwise the habit and general behaviour are all that can be desired.—P.

Soldanella alpina pyrolæfolia.—This pretty little plant is one of those which seem to do remarkably well at the Edinburgh Botanic Gardens. A nice little group of plants in the rock garden looked very pleasing when I visited the gardens at the end of April. They were freely flowered, and their beautiful little

fringed bell-like flowers drew one's attention to this pretty group, and made one rather unwilling to leave the plants to pass on to something else. These alpine Moonworts are worth taking some trouble with, and few are more beautiful than this form of *S. alpina*, which seems more floriferous than the type.—S.

Polyanthuses at Rockville, Edinburgh.—The pretty garden of Mr. P. Neill-Fraser, at Rockville, Murrayfield, Edinburgh, is worth seeing at any time, but when I visited it last at the end of April the finest things in bloom were, undoubtedly, the Polyanthuses, of which Mr. Neill-Fraser has an exceedingly fine strain of his own selection. I have previously admired these greatly, but the latest-raised plants are much superior to those grown in the same garden only a few years ago. The white and yellow forms are particularly fine, and the advance in these is much more marked than in the case of the darker flowers. I do not know why this should be, but it was very noticeable at Rockville. One cannot, however, say too much in praise of the whites and the yellows. Many were of perfect order, and also of exquisite form. One large bed contained at one end some of the latest of Mr. Fraser's seedlings, and at the other a number raised from the seed of a strain which is considered of better quality than usual, but the contrast between the two was a marked one, and decidedly in favour of the Rockville strain. The plants are carefully gone over and marked, so that seeds are only saved from the plants which are of the highest quality. It must have taken a good many years to attain such successful results.—S.

Tulip Joost van Vondel.—Quite a partiality is shown for this Tulip in some gardens, and when one considers its pleasing and refined appearance this is not in the least difficult to understand. It is of sturdy habit, varying in height from 8 inches to 10 inches, and develops large cup-shaped flowers. The colour may be described as rosy red, flaked with white, and suffused with pale rose on the centre of the outer petals. Splendid masses of this variety are now in full beauty in Waterlow Park, where it is much admired.—C. A. N.

A useful plant for growing under trees.—Owners of gardens who have large trees occupying conspicuous positions are often considerably exercised in their minds as how to cover the soil in a suitable manner immediately beneath the branches. Plant after plant is tried, only oftentimes to accentuate previous failures, and the despairing cultivator at length abandons the attempt. One of the weeds with which Nature sometimes forms her beneficent carpet is the green Hellebore (*Helleborus viridus*), which is in some parts of our isle a well-known woodland plant, whose flowers, though not competing for beauty with the Christmas Rose (*H. niger*), yet have a subdued charm, making them well worthy of attention. The plant grows some 18 inches high, and in April and May particularly is one of the brightest and prettiest plants possible to find for growing under trees. An acquaintance of mine, who is an ardent lover of English wild flowers, was so struck with the beauty of this green Hellebore in its native woodlands, and the manner in which it flourished in the deepest shade, that he planted several in a shady place beneath some Elms and Beeches where nothing would grow. This was five years ago, and the result a few days since was a beautiful display.—E. J. CASTLE.

Eranthemum pulchellum.—Blue flowers are not too plentiful at any time of the year, either in the open or under glass, but a batch of plants of this *Eranthemum* will assist in affording a nice bit of this generally-popular colour for associating with other subjects, and, as its flowers are produced in the dull winter months, they will prove invaluable. The flowers are of a rich colour, and on good, well-developed specimens are freely produced; they have the disadvantage of being somewhat fugitive, but so freely are they produced that this is not noticed to any great extent. The present is a capital time to insert the cuttings in light sandy soil, and if the pots containing them be plunged in the propagating bed, roots will

quickly be emitted, when each young plant should be carefully potted into 3-inch pots, and grown freely on a shelf in the warm temperature of a pit or in the stove house. Shift them on as required into 7-inch or 8-inch pots, which are suitable for flowering the plants in. Early-struck cuttings grown on freely throughout the summer will form large plants for yielding abundant blossoms next winter.—H. T. MARTIN, *Stoneleigh*.

THE FRUIT GARDEN.

STORAGE OF BANANAS AND ORANGES.

HERE are two fruits the gathering and storage of which for exportation to this country seem to be of the most careless and unskilful description, and which I have often thought might be improved with advantage to the public. It is a very rare thing to eat an imported Orange which does not set one's teeth on edge, or of which the flavour and quality are anything like as good as they might be had the fruit been gathered at the right time and properly stored till it reached the market; and the same may be said about the Banana with its thick skin and insipid taste, compared to that of the properly ripened fruit. The Banana is, I believe, certain to become one of our most esteemed and universally distributed dessert fruits, if not a food, judging by the signs of the times and the rapid extension of its culture abroad wherever it will grow. It is now found on the dessert table everywhere, and nearly every day in the year, and lately prices, in provincial towns, have dropped from 1s. 3d. per dozen to 8d. retail. The Banana is one of the most wholesome and delicious of fruits for either the sick or healthy, and if only the difficulty of storage could be got over it might be placed in our markets in first-rate condition; but evidently growers and importers do not yet understand their business. The first consignment of Bananas from the West Indies arrived quite lately. I saw hundredweights of these on arrival that had been sent forward in trucks among straw. The bunches and fruits were larger than any sent hitherto from elsewhere, and the variety appeared to be one between the well-known *Musa Cavendishii* or *Sapientum*, but all were as green as grass, and would never ripen properly. The bunches are, of course, cut green in order that they may travel safely, in the expectation that the fruit will ripen afterwards, but they may be said to only change colour and perish quickly. It is quite impossible to cut a bunch of Bananas at a stage when all the fruit on the bunch, scores perhaps, are just in perfection, for the simple reason that, under ordinary conditions of temperature, a month or more may elapse between the ripening of the first and last set fruits on the same bunch. I have gathered Bananas from the plant and the same bunch, day after day for dessert, for a month, and they were gathered as fast as they ripened. This was at Dalkeith Palace Gardens when I was there with the late Mr. Thomson. Dalkeith was, I believe, the first place or one of the first places where the Banana was grown for dessert, and I believe not a few gardens in the south were stocked with plants from there. The plants were first grown in tubs, and later planted out in a deep rich border. The commonly imported kind is *Musa Cavendishii*, which will succeed well in a stove temperature, just a little above that of an intermediate house. The fruit on each bunch is produced in whorls of clusters, which ripen in succession during several weeks, and should be cut in the same order. If cut when quite ripe they will keep for a considerable while in a cool dry fruit room, and if cut when the cluster is just turning in colour they will keep much longer. What surprises one is that growers in the Canary Islands and West Indies do not seem to know that, for if the fruits were cut, not in whole bunches, but in clusters or parts of a bunch as they ripened, they could be packed in about one quarter of the space, and if shipped when just on the turn in cool but

not freezing temperatures they could be landed in England in sound condition, still in good keeping state, and in a far superior condition for the table than anything that has come to hand as yet. I feel pretty sure such fruits would not stand freezing chambers, such as the Australian rabbits are shipped in. These are stored in a dry freezing temperature, and after they are landed in this country and sent far inland, they are still solid blocks of ice and have to be got rid of quickly. A cool temperature, such as I suggest, is a dry one of from 35° to 40°, which arrests decay for a considerable while.

What applies to the Banana applies also to the Orange, which is shipped green, or only on the turn, hence the poor flavour and acidity of shop Oranges. Of course an ice house might be better arranged for a cool chamber than the one I had to deal with, but the conditions to be kept in view should be a dry atmosphere and a temperature not below 32° nor much above 35°.

Whether the Banana will ever be grown profitably in England remains to be proved, but no plant is easier to grow and fruit, and according to Humboldt, its productiveness is as 133 to 1 in Wheat and 44 to 1 as against the Potato.

Without ice in it I consider an underground fruit room one of the worst, as it cannot be easily ventilated, and the temperature being rarely under 50° everything becomes mouldy and nasty.

J. SIMPSON.

WOODLAND AND FOREST.

TREES AT LES BARRES, FRANCE.

THE estate of Les Barres lies at a distance of about eighty miles from Paris upon the high land that separates the waters of the Seine from those of the Loire. The climate is drier and somewhat colder than that of the neighbourhood of Paris. The country has no large stretches of woodland, but the fields are often belted by trees and the slopes are often wooded.

The estate was bought about the year 1820 by M. Pierre de Vilmorin to make some experiments in planting. For this he wished to find land of some extent that should be of moderate price and with much variety of soil, and the land answered these requirements. It had when bought an area of about 1,300 acres of extremely varied soils—in the highest part sandy, with a stiff clay subsoil. The dwelling-house was built on this portion, and here also is the chief plantation of forest trees. To the north-east of this portion were fertile gently sloping fields with a soil of sandy loam. A shallow valley coming from the south ended in a region of black earth, almost peaty, while all the slopes beyond the valley are calcareous, with hollows of good arable land.

Early in the century land in this province had a low money value, so that only the best portions were cultivated, and if the wind or the birds brought seeds which sowed themselves by the roadsides the cultivator felt no anxiety about the increasing width of the roadway, nor about the belts of trees that widened them still more. In these roadsides may be seen very fine Oaks, Elms, and a large number of old Pear trees.

M. de Vilmorin's experiments were varied in their objects, including agricultural crops, cereals, and, above all, forage plants. They were carried on with much activity from 1820 to near 1845, and were of much value in determining a better knowledge of the fitness and utility of a great number of plants of this class.

The work among forest trees extended over a number of years, and M. de Vilmorin was

still engaged in it during the last years of his long life. The planting was divided into two distinct branches: Firstly, the study of the best varieties of native trees and their power of producing by selected seedlings improved varieties; and, secondly, study of the hardiness and growth of the most valuable species of exotic forest trees, in order to learn how they would thrive in certain parts of northern and western France.

The study of varieties of form and growth of the native trees was principally among the resinous kinds. Still some instructive trials were made with Oaks, and many lines were sown with Acorns from trees that showed

quality of timber, is placed the *Pinus sylvestris* of Riga, whose wood is so highly valued for the masts of shipping. Some Russian seed had been put in before M. de Vilmorin began his experiments. This was done in 1821 and 1830, when sowings were made of special seed from the Russian provinces where the Pines bore the highest reputation. The result showed that seedlings of this selected strain produce descendants, all, or at any rate, the greater number of whom, and with only rare exceptions, reproduce the straight trunk and tall conical shape.

The experiment was carried further by means of seed saved from the trees grown in France, but

originally Russian seed. Here was already a first generation growing in a different climate. Riga Pines sown within land belonging to the Port of Brest by Baron Caffarelli, Maritime Prefect under the first Empire, furnished seed which was sown at Les Barres, while other plantations also supplied seed sown at Les Barres; finally, the long life of M. de Vilmorin allowed him to sow seeds of trees derived from his own seedlings. These are no less perfect in type than their parents, while those that came from the first French plantations show forms not quite so good, though similar to their parents. Trials with the more ordinary types coming from Scotland, Germany, and the mountains of France were carried on at the same time. The space given to the trials of *Pinus sylvestris* is about fifty acres. The results were given in detail in communications made to the

Société Nationale d'Agriculture, and in a notice published after M. de Vilmorin's death.

Some plantations of nearly equal importance were made to test the varieties of *Pinus Laricio*, and to show the superiority of the variety coming from Calabria. Here are groups of the *P. Laricio* of the first, second, and third generations. Species nearly related to *P. Laricio*, such as Austrian Pine and the Pyrenean Pine (*P. Salzmanni*) were also planted both in lines and clumps. In the Maritime Pine also (*P. pinaster*) various results from seed have made unquestionable the superiority of the race of Corte (Corsica), described in botanical works as *Pinus pinaster major* or *P. Hamiltoni*.

Some plantations of exotic trees, made in order to prove the hardiness, and observe the growth of the various species, have mostly to do with the importations from North America and the East, encouraged by the researches of the two Michaux and of Boissier. The greater number of the North American Oaks, to the number of twenty-four, are represented in the plantation. Of the *Caryas* and *Juglans* there are twelve, of the Elms and Birches there are examples of the best species.

The Oaks were put together in a part of the forest plantation in a place called the American Acorn Ground where they stand in lines. This piece is of about twenty-five acres, and here European and Oriental Oaks occupy about one-fifth of the area; but the most remarkable specimens are near M. de Vilmorin's house, which stands in the pleasure ground in land formerly occupied by orchard and nursery. The most remarkable among the American Oaks is a *Quercus heterophylla* planted in 1824; the trunk at about 2 feet from the ground has a circumference of about 10 feet, and the head is thickly branched all round.

A Turkey Oak (*Q. Cerris*) of the same age is very nearly as large. There are also examples of *Quercus coccinea*, *palustris*, *tinctoria*, *marilandica*, *rubra*, *nigra*, and *Phellos* as tall as the *Q. heterophylla*, but with trunks of less diameter.

The old nursery in the northern part of the estate, in cool, deep soil, contains some fine specimens of *Quercus alba*, of *Carya porcina*, *alba*, *amara*, of *Betula papyracea*, of *Pinus Laricio* of Calabria, of *Pinus rigida*, *Abies Pinsapo*, *Magnolia*, *Robinia spectabilis*, &c. A very handsome specimen of *Quercus imbricaria* about 50 feet high was unfortunately blown down last winter.

Before his death, which occurred in 1862, M. Pierre de Vilmorin had arranged to transfer to the State the portion of the estate containing the plantations of forest trees, desiring that they should be preserved from any possible cause of disturbance. This transfer was not, however, concluded till 1866, when the French Government took advantage of the elements of instruction upon the estate to establish there a school of forestry destined to train foresters in the knowledge of trees and of nursery work.

The Ecole Primaire here receives free students, who are likely to prove good managers of private forest properties; then a secondary school was instituted, conferring a warrant of General Forester on those members of the Forester's Corps who successfully passed the entrance and final examinations. The handsome wooden pavilion that was built to receive the collection of forestry products at the Universal Exhibition of 1878 was transferred to Les Barres.

In order to give the pupils facilities for the comparison of trees, the Administration of Forests collected together in one space, specimens of the greater number of the trees that are in the plantations. This arboretum is immediately surrounded by the finest of the old orchard trees and the original park. A large number of species that were not yet introduced when M. de Vilmorin made his collection of trees were planted in this arboretum by the Administration of Forests. A compendious catalogue of hard-wooded vegetation at the Les Barres, Vilmorin estate was drawn up in 1878, by the Administration, and forms a volume of 100 pages. The collections have been further enriched, especially in the series of Conifers, which contains both many rare species and many remarkable specimens,



PINE FOREST AT LES BARRES.

great vigour or beauty of trunk. The trial showed that the merits of the parent trees were in a large measure reproduced by their descendants.

The most exhaustive experiment in this way was on the Scotch Fir (*Pinus sylvestris*), a tree of great value, and which includes some distinct varieties; some with an almost rectilinear trunk, and a crest of regular branches that are slender; others with a tapering trunk and stout side irregular branches, so that the symmetry of the tree is broken. Others have a constant tendency to spread their branches, gaining height very slowly; others, again, assume an elliptic outline.

In the highest rank, both for beauty and for

The greater part of the estate of Les Barres remains in the family of M. de Vilmorin, including some of the trial plantations on the calcareous and peaty soils. In one portion of the private property, but immediately adjoining that now belonging to the State, M. Maurice de Vilmorin about five or six years ago began to make a very full collection of shrubs, which, adjoining the trees in the State Grounds forms a complete arboretum, where may be seen a whole series of the hard-wooded vegetation that is hardy in the climate of the centre of France. R.

AMATEURS' PERPLEXITIES

GARDEN OVERRUN WITH WIREWORMS.

MY garden, which is now in its second year, and was formed from pasture land, is overrun with wireworms, inasmuch that we lose most of our young plants in the flower and kitchen gardens. My gardener has used quantities of soot, Carrot, and Potato traps. From the latter he collects from ten to fifteen wireworms every second or third day—a laborious business—and at the same time our plants are also eaten through. A whole crop of Tomato plants were destroyed last year a day or two after being put out, in spite of a liberal supply of soot. I shall be much indebted for information how to deal with these pests wholesale. Gas lime and nitrate of soda have been recommended. If these are really serviceable will you kindly tell me the quantities to use and the time of year to apply? I may add that the whole land has now been dug over two or three times, and I think we have more wireworms, if possible, this year than last.

Newbury.

F. W. SAUNDERS.

[We fear you will experience great difficulty with your land, as at this season you cannot adopt the same measures to get rid of the pest as you could in the winter. Gas lime applied in the autumn or winter is one of the best things you can use, but you cannot use it strong enough without injuring the roots. Our advice is to use it in small quantities when sowing or planting, or, what is better, use a little thus: Mix, say, a double handful of the lime in a pail of water, or, say, a 3-gallon can, and water with this. Also in showery weather apply a little on the surface. We have also used sulphate of ammonia in the same way, but here equal care is necessary, as it is very strong. A pound of ammonia will suffice for three gallons of water. Another thing you may apply, and that is weak, thoroughly soluble petroleum, but we prefer the ammonia. For growing crops you could use the nitrate of soda, but you see this is for feeding, and, though it will cause the plants to make more progress, it will not kill the pest. We have seen such a crop as Rape grown and dug in, but you require the land for present cropping. If you have any vacant land give it a good dressing of lime and soot before planting. This will protect your crop, or you may when planting in drills make a little deeper drill and place a liberal portion of the mixture advised above in each drill. Turf land is difficult to cleanse. The pest is in the top soil or fibrous part, and continues breeding. The best way before digging up turf is to burn the old grass, then turn up roughly and expose to severe weather. Early next autumn thoroughly dress your land with gas lime, soot also if obtainable, or any charred refuse. Expose to the weather all winter, ridge it up as roughly as possible, and then before planting level down with a fork. You will next season be free from the pest. Use animal manures sparingly until the land is clean.—Eds.]

VINE FOLIAGE DISFIGURED.

I SHOULD much like to know the cause of the disfigurement of the leaves enclosed. I ventilate very carefully and do not let the place get too hot.

I keep the temperature at 60° at night and start to ventilate at 65°. The Vines are in good condition and crop very well indeed. The house is a span-roof, one side Vines and the other Peaches, but the ventilators are not to my liking. They are about 1 foot wide, and stretch from the rig to the spout, but I am very careful how I use them. I have been told the cause of the disfigurement is the work of red spider. The variety is Buckland Sweetwater. A CONSTANT READER.

[We have carefully examined the leaves, also read your note as to your treatment, and we fear your ventilation is somewhat imperfect, but you appear to study that point, and we will advise so as to prevent the injury, or at any rate minimise it as far as possible. There are other causes besides poor ventilators. The glass is often at fault. If spotted or poor it causes the scorching, as there can be no question whatever the injury is in scorching, and from the appearance of your Vines they look as if rather close to the glass. Now, you have Peaches in the same house, and it is moister on this account. Though you ventilate early the Vines are damp, and the hot sun, with moisture combined, causes the injury. Our advice is to leave a small amount of air on the top ventilators at night here and there (many of our best Grape growers do this), as though the house is closed in the afternoon, later on the top ventilators are opened as advised. This will allow excessive moisture to escape, and there is less fear of the temperature rising too freely before the house is attended to. You say you ventilate at 65°, but often the temperature early in the morning rises and falls before the house can be opened. The advice given above if acted on will prevent this injury. Vines will not suffer by the night temperature being a little low; far better this than too high. And your Vines being scorched more in one part of the house than another points out that the injury is greatest where the moisture and heat are more confined. Again, you see, it attacks the most tender part of the foliage, the lateral growth, also, doubtless, the portion nearest the glass. Now, if the advice given does not check this, the injury is caused by defective glass. We would advise you to make a thin wash of whitening and skim milk and cover the glass with this. There is no sign of red spider whatever, and this pest cannot thrive where there is ample moisture. You will now be able to ventilate more freely, as it was difficult to give air, and there was in consequence more danger from scorching.—Eds.]

A JAMAICA GARDEN.

(Continued from page 344.)

FENCING.

CONVENIENCE generally dictates the use of the abominable "prickle" wire, but so near the house, albeit so high above it, the fence is made of lengths of Cow Bamboo tied with "string" of living climbers. The posts are cuttings of trees 7 feet in length, which readily root. Those we chiefly use are Maiden Plum (*Comocladia integrifolia*), Birch (*Bursera gummifera*), Cedar (*Cedrela odorata*), Physic Nut (*Jatropha*), and Moringa. The first two are the safest and best. Such posts are known as "grow-posts." We see a good deal of this pretty rough fencing, which the negroes are expert in making. But it has two disadvantages—it is costly and not very durable. So for long stretches, especially on a pen (Jamaican for ranche), barbed wire is essential. Curious and restless animals force their way through anything that does not prick. This reminds me of a story too good to be lost. The little daughter of one of my neighbours was having her Scripture lesson. The subject, Adam and Eve. She was impressed by the penalty for one act of disobedience, and realised the pity of it. Accustomed all her nine years to pen life, and fully aware that prohibition is only effective when supplemented by restraint, she thought awhile. Then, looking up in the face of her instructress, said very earnestly: "Oh! why didn't he put barbed wire?" Ah, why indeed!

The pasture of the two acres which the fence encloses is Rufus's playground, and its apparently unnegotiable steepness gives him his necessary exercise. It is sometimes called the orchard, having some groups of Orange and Lotus (*Byrsonima coriacea*), a striking indigenous tree, whose wealth of yellow flowers in July is succeeded by bunches of Gooseberries, each with a stone instead of pips. Is not this the food of the Lotus-eaters rather than the accepted *Nelumbium*? Torrid India and burning Egypt are neither of them suitable sites for the earthly Paradise. Surely it is rather to be found in the perfect climate of the West Indian hills. Where else, except perhaps in the islands of the Pacific, can be enjoyed as I have enjoyed sixty consecutive months of June in five years?

IPOMÆAS.

When I see the Morning Glories at their best I always want them in the garden. And yet they are not altogether satisfactory. They stay long in the preliminary leafy stage before flowering, and in that condition are weedy, rampant things, which try one's patience. Of garden varieties of the larger kinds two stand pre-eminent, Heavenly Blue and a white of the same size and texture. A neighbour of mine grows them to perfection, though I never quite forgive the background of rabbit-wire on which they are trained. He snips off the dead flowers every day, and each morning there is a new and bountiful supply. True to its name Heavenly Blue seems to bring heaven down to earth. It is an azure cloud, and each individual flower perfect in its satiny sheen. The white variety, slightly tinged with palest yellow towards the throat, is equally delightful. I have had both myself and enjoyed them, but as yet have not found the right place, and for the present "am not bothering with them again," as they say here.

I once, in spite of previous experience, succumbed to the seduction of a coloured plate in a catalogue, and sent for a selection of Morning Glories bearing names of Japanese magnates. Carefully I tended them through their long period of leafy growth, and, oh! what anticipation when the first pointed bud showed, and what disenchantment when it came out! I picked it and compared it with the picture. It was the very thing, line for line, colour for colour, a rich imperial purple. There was no exaggeration in the picture, and yet the living flower was a disappointment. The truth is they are not flowers to pick. Their effect is first in mass, and afterwards in detail. This had no effect in mass. It was merely a cloud of gloom. Heavenly Blue is a cloud of light. Charmed with its sum of effect one is ready to appreciate and admire the unit which helps to make up that sum. One is not prepared to reverse the process. And so my Japanese dignitaries, Counts, Marquises, &c., the very Emperor and Empress, if I remember right, were not saved from banishment by their high lineage, for all proved alike, unsufficing, ineffective, dull. Very different it is with our native *I. Horsfallii*, whose streaming crimson racemes assert themselves at 100 yards distance. We call this class, in which there are several colours, some beautiful, some undesirable, Wild Potato, the edible Sweet Potato being the tuber of *I. Batatas*. Moon-flower (*I. Bona-nox*), more generally known to utilitarian Jamaica as Hog-meat, is another lovely thing when met with wild. It comes as a delightful surprise in the early morning on the moist river bank. Better far there than in the garden, where it makes too much "bush" and too little flower. It is a somewhat flattened form of the beautiful English Bindweed, so tempting to introduce into cultivation and so fatal.

I. sinuata, known also as *I. dissecta* (Noonday Glory) caught me in its coils. The pure delicate tracery of the leaf did it. And how I wished afterwards I had left it where I found it, and where it still grows and charms me on the stony edge of the barbieue. *I. tuberosa*, whose fat brown-black seeds are as big as small Chestnuts, is worth growing. If Heavenly Blue would bear rough treatment it would find its way into many a tangle of wild "bush," but it demands manure and attention. Seven-year-Vine (*I. tuberosa*), on the other hand, thrives on neglect. It got a poor

hole in a poor place and covered a Sweet-wood tree (*Nectandra*) 50 feet high in a year, and is periodically, I had almost said perennially, a smother of pure yellow blossom.

The most satisfactory garden plant of them all is Cypress Vine (*I. Quamoclit*), too well known to need description. It is manageable, and what can be daintier than its starry flowers and delicate foliage? I grow both the full red and white, preferring the type. A paler red or pink which sometimes appears is not so good.

THE VERANDAH.

Every house has its *Stephanotis* on the verandah, and it would be an affectation of singularity to depart from the general custom. Nothing can be more suitable, nothing sweeter. It is very slow to start, and for the first year seems to be feeling its way under ground. When it does begin, growth is remarkably rapid. It flowers twice a year in the rainy seasons, May being its best month. The other climber on my verandah is *Asparagus falcata*, a kind with delicate long leaves. It flowers very seldom, and this defect is remedied by the addition of that charming annual *Maurandya barclayana alba*. The two together make the happiest combination, and seem so much to belong to each other that I am never tempted to make a change.

A narrow slip of border along the length of the verandah is intended to be always bright, but man proposes and my four pussies dispose and depose—not always discreetly. This strip, too, labours under the same disability as the one at the end of the outbuildings. It is an extra hot sun-trap, and is the first place that wants cooling with the hose in the afternoon, not that we are particular to carry out the old rule of waiting till

the sun is off before we begin to water. If we did that we should never get through our work. I ply the hose right through the cloudless days of July and August, and no ill results ensue, the water being hard, limey, and cold. An excellent professional gardener of my acquaintance in Essex waters there, too, in full sunshine. "When you see your plants flagging," he used to say, "give them a little help." Young plants just put out might perhaps be injuriously affected, but over them we also contrive some light shading for a few days till they are established. What we chiefly use for this purpose is Umbrella Grass (*Cyperus elegans*). This handsome grass is one of the principal features of the river-growth at Castleton, and I have naturalised it here, and was pleased to find a good tuft of it one day two miles down stream. It is sometimes called *Papyrus elegans*, and is a compact version of the Egyptian *Papyrus*. It makes a tidy, easily adjustable shelter for small plants. Over anything large we put Mango boughs, the ever-ready cutlass lopping them off some neighbouring trees.

OUR TOOLS.

The cutlass, long-bladed and short-hafted, is the most useful tool, and right skilfully the natives handle it. No man goes to his work without one, and endless are its uses. Besides its primary function of clearing bush and cutting posts and rails, it is employed to chop firewood, dig holes, mow grass, open tins and cocoanuts, and dibble in Peas. It speaks much in favour of the negro that, with his hot, excitable, southern blood, this murderous weapon is so seldom used for offence. Instances of "chopping" with a cutlass are rare. His other tools are a "picker" (pickaxe) to turn up the ground, and a hoe to weed it. Sometimes

the fork is used in the garden, but Headlam prefers to wield the picker, even in the old oft-turned soil. Naked feet do not tread the fork well, and when it is used it is thrust down with a vigorous motion from the shoulders, making it harder to work with than the picker. In the hills you never see a spade, and down-turned fingers do duty for the rake. W. J.

GARDEN DOORWAY CROWNED WITH CLEMATIS MONTANA.

MANY are the uses of this noble climber, the earliest to bloom of the far-rambling plants that grace our gardens. Often, as in the illustration, when it is planted on one side of a wall, and has amply done its duty there, its many long streamers may be trained over the top and made to play an important part in quite a different garden picture. In the case shown it has come over to the sunny side of the wall, and drooping down helps to form a picture of white blossom in combination with two prosperous bushes of *Choisya*, the earliest blooms being on this side. A little later the same plant is in beauty on the north side, where its picture companion is a *Guelder Rose*, also trained to the wall.

EDITORS' TABLE.

A CURIOUS TULIP.

Mr. Henry N. Mathews, Dimlands, Ealing, sends a curious Tulip stem with three flowers of



CLEMATIS MONTANA WREATHING A GARDEN DOOR.

varying size. Our correspondent writes: "I have grown Tulips for many years, but have never seen a similar case."

Mr. Greenwood Pim sends from County Dublin the following interesting flowers:—

RHODOTYPOS KERRIOIDES.

The only species of its genus; a charming shrub from Japan, nearly allied to the better-known *Kerria japonica*. The four-petalled, pure white blooms would be like a single Rose or Rubus but for the want of the fifth petal, which is an invariable character of the Rose group. The fresh green leaves are strongly plicated and richly serrated at the edge. It is a shrub of great refinement that should be oftener grown. Its only fault is that it is rather too sparing of its pretty flowers.

EDWARDSIA MICROPHYLLA (THE NEW ZEALAND LABURNUM).

The former genus *Edwardsia* is now included in *Sophora*. The bunch of yellow bloom, in a terminal panicle on the as yet leafless shoot, is of a rather heavy yellow colour, that is relieved from dulness by the harmonious association, interesting to a colour-trained eye, with the browner yellow of the calyx, which again deepens to the still browner peduncle. All the genus have pinnate leaves. One of them, *S. japonica*, produces a fine yellow dye, used in China for dyeing silks.

VERONICA LAVAUDIANA.

One of the neat and beautiful New Zealand species, with leathery, obovate, crenate-dentate leaves, whose neat prettiness is much enhanced by the



A PINK FREESIA.

(FREESIA

ARMSTRONGII.)

(From a drawing

by H. G. Moon.)

toothed edge being tinted red. The terminal flowers are in a corymb of neat bloom, each little stalk carrying a close cluster of pink bud surrounded by white bloom, giving the appearance of a double or compound flower. A charming dwarf shrub.

CONVOLVULUS CNEORUM.

A pretty, silky-leaved South European plant, hardy only in the best climates of our islands. The whole plant is covered with a satin-like down that even clothes the pinkish bands on the back of the corolla.

Mr. G. M. Taylor sends from Inveresk, near Edinburgh,

A SPRAY OF LATHYRUS PUBESCENS.

a beautiful plant, seed of which has lately been distributed by Messrs. Thompson and Morgan, of Ipswich. The colour is a fine blue in the greenhouse-flowered specimen; if it is any stronger in the open air it will be a grand thing indeed. The racemes in the specimen sent each bear thirteen flowers, the individual flower being the size of a small Sweet Pea. As the thirteen blooms are set on a space of not more than 2 inches at the end of the flower-stem, whose whole length, bloom included, is only 6 inches, it will be seen that the head of the flower is handsomely filled, though not crowded. The downy covering of the plant gives

it a distinct appearance, as most of the genus are glabrous. Mr. Taylor writes as follows:—"I send you a flowering spray of *Lathyrus pubescens*. This has been flowered under glass, and, therefore, I think the colour is not so deep as it would otherwise have been. Seeds of this rare variety of *Lathyrus* were offered last season by a well-known firm of hardy plant specialists, but doubts were expressed by them as to its conforming with the *Lathyrus* under this name, figured in a coloured plate in *THE GARDEN* of 29th October, 1898, as the description they got of it did not at all coincide with that given by Mr. Arnott in his article accompanying the coloured plate. Judging from the plant here I think that it is the same variety, and the colour is practically the same. My plants in the open will not flower for some time yet, but they will make splendid companions to *L. latifolius albus*."

Mr. Kingsmill sends from Harrow Weald some grandly berried sprays of

SKIMMIA FOREMANNI.

the closely clustered polished berries of a splendid deep red colour and three-eighths of an inch in diameter. Mr. Kingsmill says: "My plant has been a real joy all the winter, and the flowers have been beautiful this spring." From the same garden come blooms of grandly grown *Trillium grandiflorum*.

From Mr. G. F. Wilson comes a flower of the new and rare

LEWISIA TWEEDII.

The eight-petalled bloom is $2\frac{1}{2}$ inches across, and of a wonderfully delicate colouring and texture, palest yellow shading to palest pink towards the margins of the petals, such a colour as may be seen in the tenderest tinted clouds at sunrise.

[We shall shortly illustrate this.—EDS.]

From Mr. S. Pope, jun., Manchester, comes flowers of

TULIP ROSE GRIS-DE-LIN AND NARCISSUS LEEDSI AMABILIS.

The Narcissus twin-flowered at the top of the stalk, the Tulip with two perfect flowers joined just above the second leaf.

AN ARTIST'S NOTE-BOOK.

A PINK FREESIA.

(FREESIA ARMSTRONGII.)

FREESIA in which the dominating colour is rich rosy pink is a welcome addition to spring-flowering greenhouse bulbs. Such a plant has been in cultivation at Kew about three years, and this year it has displayed itself to the full. In general characters it resembles the true *F. refracta* (aurea), differing only in the absence of purple from the leaf bases and in the colour of the flowers. The tallest scapes are 20 inches high, with three or four branches, the racemes bent almost at right angles, and each bearing from six to eight flowers set at $\frac{1}{4}$ inch apart, 1 inch long, exactly the same in shape as those of *F. refracta*, the tube white, with a splash of orange at the base, the segments heavily margined or laced with rich rose in which there is a suspicion of purple. The plants flower at the same time as *F. refracta*, that is, about a month later than the larger-flowered *F. alba*; some of them are still in flower (May 14). Kew is indebted for this plant to Mr. W. Armstrong, of Port Elizabeth, who found it wild in Humansdorp, Cape Colony. It has ripened seeds at Kew, and the seedlings are exactly like their parent. W. W.

NOTES FROM SCOTLAND.

SPRING FLOWERS.

ALTHOUGH the present spring was sunless and cold, it is remarkable as proving the earliest for Tulips and Narcissus that we have experienced since 1896, which was an abnormally early season.

The rapid manner these have come forward can be attributed only to a few very hot days in April, which gave vegetation an impetus which has continued ever since. The result has been that in the earlier districts flowers have been quite as forward as the same kinds in the south of England. In the case of private gardens this is not a matter of importance, but with market gardeners it has proved exceedingly unfortunate, because their bloom has been ready for sale at the same time as Lincolnshire and Cornwall, flowers and prices having been in consequence so low as occasionally not to repay for labour. The care and trouble taken by the Scotch

in beds since being turned out of the propagating house after having been supplied with roots. Then there was a great quarter in which Arum Lilies had been planted immediately Easter was past, and their place under glass was at once occupied by Tomatoes. The Arums are never in pots, but in October will be returned under glass, planted out in borders, and spathes will begin to appear in November. B.

A NEW FIR—THE CORK "SPRUCE."

(ABIES ARIZONICA VAR. ARGENTEA.)

ALTHOUGH called a "Spruce," this new conifer is really a Silver Fir. It has recently been discovered by Mr. C. A. Purpus in Arizona, at altitudes of 8,000 feet to 11,000 feet, and in a region where severe snowstorms occur as early in the season as October. There is every likelihood, therefore, of its being perfectly hardy in Britain.

Perhaps the most remarkable feature of the

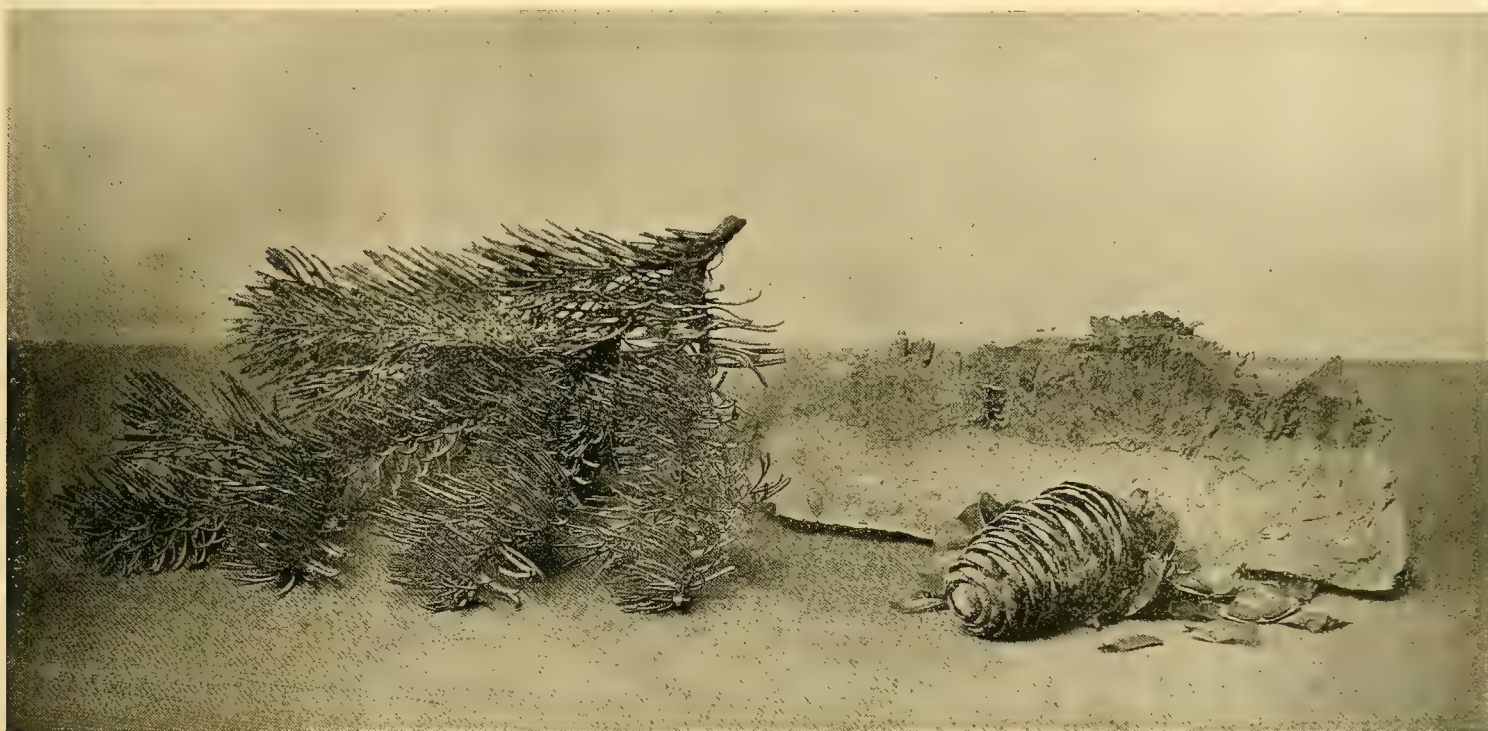
pineta, the Fir commonly known in gardens as *A. lasiocarpa* (which is one of our most popular and ornamental conifers), being *A. lowiana*. Properly, therefore, this new tree from Arizona should be called *Abies lasiocarpa* var. *arizonica*.

INDOOR GARDEN.

CULTURE OF PERSIAN CYCLAMENS.

RECENTLY, before the Kidderminster Horticultural Society, a capital paper upon Persian Cyclamens was read by Mr. Dixon, who said the original *Cyclamen persicum* was introduced into England from Cyprus in the year 1731.

The plant is known as Sowbread, from being the favourite food of the wild boars in Sicily, where it is found wild. It is propagated by seed, which



THE CORK "SPRUCE"—FOLIAGE, BARK, AND CONE.

growers, some of whom cultivate Daffodils by the acre, to put the flowers on the market in first-rate condition is beyond all praise, and the public have not them to blame if the flowers they purchase are not in first-class condition. The method of procedure, as I saw quite recently in a large establishment, is to gather the flowers before they are fully expanded. They are then placed in water in earthenware vessels, each of which holds a few dozen blooms, and these are set in cool structures until ready for bunching. While here they are carefully graded and then passed on to be bunched, twelve blooms in each bunch, and thereafter are packed in shallow boxes, which are tied in bundles for more easy handling in transit. The ground, even at a distance from towns, lets at from £5 to £12 per acre. They have, however, methods of working which the private gardener would hesitate to follow. Thus, at the end of April, in the establishment in question, I found already 6,000 *Chrysanthemums* potted into their flowering pots and arranged in the open air to make growth for the season. The plants were being lifted from frames, heated for exigencies earlier in the year, where they had been growing

tree is its bark. This is of a creamy white or greyish colour, and of a corky nature. It begins to show this corky character in a noticeable degree when the plant is about 4 feet high, and, of course, it becomes more marked as the tree gets older and bigger. Another beautiful feature of this Fir is its silvery foliage, which is said to surpass even that of *Picea pungens glauca* in beauty. The leaves are about 1½ inches long, and arranged in the ordinary Silver Fir fashion, that is, in two crowded, opposite rows. The plant probably does not as yet exist in a living state in this country; but specimens showing a leafy branch and the curious and beautiful corky bark have recently been received from Herr H. Henkel, of Darmstadt, who has succeeded in importing and establishing in his nursery this promising acquisition.

With regard to the identity and relationship of this *Abies*, it appears to be a silver-leaved variety of the true *Abies lasiocarpa* (of Hooker), which is also known as *A. subalpina*. This is a rare plant in European

should be sown soon after it is ripe, as new seeds germinate more freely than old seed, and consequently there is a better growth of the young plant. The seed should be sown in August; if all went well the young plants would be up in about six weeks, and should bloom in the following September, and continue doing so till March, thus making a fine display through the dark days of winter. Use an ordinary seed pan or box, with plenty of holes in it for drainage, cover these with an inch or two of clean crocks, carefully placed. Over this place some moss, to prevent the soil from filling up the drainage; then fill up the pan or box with a compost made up of good turfy loam and leaf-mould, in equal parts, and a good proportion of clean, sharp sand. Mixing the whole well together, pass it through a ½-inch riddle; put the coarse parts next to the moss to within 2 inches of the top of the pan, and finish off with the fine material. The soil should be in a right condition, that is, neither too wet nor too dry, and it will not need watering before sowing the seed.

SOWING.

The seed should be sown or dribbled in about an inch apart each way (so as to give the young

plants plenty of room, as they will stand in the seed pan until the end of the year), cover the seed with fine soil, as previously named, about $\frac{1}{4}$ inch. Label the pan with the name and date of sowing, as this is very useful for reference. Water with a fine rose to settle the soil, and place a piece of glass shaded, or a slate, to prevent evaporation, over it. Place the pan in a house or pit, having a temperature of 50° or 60°—a few degrees more or less is not very material. If the glass or slate is kept on the pan, the soil will not need water for a considerable time, but it must never be allowed to become dry or failure will follow.

TREATMENT OF THE SEEDLINGS.

I like to leave the seedlings in the seed pan until the new year comes in—mine were potted this season on the last day of the old year. As soon as the seedlings are seen to be peeping through the soil, the slate or glass should be removed, partially at first, and afterwards entirely, and in case of bright sunshine they must be shaded by a piece of newspaper or some such article. After the seedlings are up they must be damped overhead two or three times a day with a fine rose or spray from a syringe, using soft or rain water always, as hard water contains lime, which disfigures the foliage and does not suit the plant. Keep them as near the glass as possible.

FIRST POTTING.

The soil for the first potting should be the same as that in which the seedlings were raised, that is, good loam, leaf-mould, and sand in nearly equal proportions. Some loam is heavy, and some just

as light, therefore, in mixing soil, as in other things, each one must be entirely guided by his own circumstances. The size of the first pot should be about 2½ inches. They must be half filled with drainage, for upon this depends the welfare of the young plant. The seedling must be lifted from the seed pan with a little ball of soil, and every root intact. Now you will be able to see the advantage of placing the seeds an inch or so apart when sowing; if they were closer together the roots would get broken in separating them, the soil would fall away, and the plant receive a severe check. Pot lightly, keeping the young corm about half-way out of the soil. After potting, water them with a fine rose, and place them back where they came from, or a similar place, close to the glass, and the temperature from 55° to 60°, always shading from sunshine, and damping overhead as before. At the first sign of insect life, such as green fly, thrips, &c., they must be fumigated, or vaporised, which is the better plan, for there is no plant which suffers so quickly as the Cyclamen from insect pests, and without clean, healthy foliage you cannot get satisfactory results.

REPOTTING.

In due time, if all has gone well with the young plants, they will require another shift into 3-inch pots or 4½-inch pots. I need not say that the largest plants should be put into the largest pots. The soil should be the same as before, with the addition of a small quantity of manure in the shape of Thompson's or Ichthemic guano, but whatever is used be careful not to overdo it, as the young tender roots are easily injured. Keep the

corm well up out of the soil, as in the last potting, and pot fairly firm. Water overhead to settle the soil (I take it for granted that the pots have been well and properly drained), and continue to damp overhead two or three times a day, with rain water if possible. They should be placed as before, close to the glass, so that the leaves do not touch, and a nice growing temperature maintained.

REPOTTING, FINAL STAGE.

By the end of May or middle of June, according to the progress the plants have made, they will be ready for their final shift into 6-inch pots or 7-inch pots. They will be sturdy little specimens, with a dozen or more healthy leaves and roots to match. Gradually harden them to cold frame temperature. In preparing the pots always remember that the larger the pot the more careful should the drainage be placed, and more of it. The crocks should be about 2 inches deep in this sized pot, with moss or other rough material over them, then a small quantity of soil, and then the plant. Fill up with soil, being careful not to break any leaves in doing so, leaving the top of the soil rather more than $\frac{1}{2}$ inch from the top of the pot to allow for watering. After potting, place them in a cold frame, having a north or east aspect. Keep the glass clean, and let them have as much light as possible; shade from bright sunshine and continue to damp overhead until the middle of August, after which time it must be discontinued, as the plants do not dry up so rapidly. The lights may be left off on fine nights after the plants have got well established, and they will benefit greatly thereby. Water should not be allowed to get in among the leaves at this season,



POPPIES AND FOXGLOVES BY WATERSIDE.

as it is very apt to make them damp off at the base, spoiling the flowers also.

HOUSING THE PLANTS.

About the end of September the plants should be taken into the greenhouse, as they will be throwing up their flowers fast now. The pots should be washed, and any decaying flowers or foliage removed. The house must be kept well ventilated on all favourable occasions, and in case of sudden outbursts of sunshine, which sometimes come on at this time of the year, they must be shaded. The pots being well filled with roots, they may have a little liquid manure occasionally, such as soot water or drainage from cow house or stable, but it must be well diluted or mischief will result. The plants will need careful attention as to watering, never allowing them to become dry, nor yet to get over-watered, and they will reward the grower with a wealth of blossom all the winter long, right on into March. In gathering the flowers they should always be pulled with a sharp jerk, and not cut, as this will be sure to cause damping, the parts of the stems that are left will go rotten and spread rapidly to the others, making the plants look very patchy and untidy.

SECOND YEAR'S TREATMENT.

Those who have room to accommodate them for a second year will find that they will very well repay a little care and trouble, as they come into flower later in the spring, and so will prolong the supply of flowers quite another month after the seedlings are over. After flowering they should be put away, not under the stage or in a corner where they will receive no attention, but in a cold frame near the glass, where they can be attended to as usual. They should not be allowed to suffer from want of water or be dried off suddenly. The best plan, and the one involving the least trouble, is to make up a frame, with at least 12 inches of soil on a well-drained bottom, and plant them out carefully, giving them a good soaking to settle the soil about the plants, after which they should be treated very much the same as the seedlings, with regard to giving air, damping, and shading. When the plants are seen to be making new foliage they should be carefully lifted and potted in suitable sized pots, using the same kind of soil as for the seedlings, taking care to leave the corm well out of the soil. After potting, keep the plants rather close and shaded for a few days to encourage root action. About the end of September they should be brought into the greenhouse and placed in a light airy position, where they will not get drawn. The stage on which the plants are to be placed should be covered with ashes, shells, fine gravel, or some such moisture-holding material, and although the plants should not be damped overhead, for reasons previously stated, the syringe should be used in amongst the pots, and the material on which they stand should be kept moist. In the case of open staging, it should be covered with slates, old boards, or sacking to prevent the ashes or other material falling through. In handling the plants, it should be done carefully, as the leaves are heavy, and if they once get down over the pot they do not easily recover themselves. I think something may be said as to the value of a good patch of Cyclamen, both from a decorative point of view, and also from a commercial one. Take the latter point first: Good flowers sell readily at from 4d. to 6d. per dozen, and when they can be used at home by the florist, and made up into wreaths, bouquets, &c., I think we may say they are worth a little more; and good plants will produce say four or five dozen flowers each, so that they will pay to grow from that point of view. Then take it as a decorative plant.



DENDROBIUM NOBILE WITH 217 FLOWERS.

I have never met a person yet who has told me that they did not like the Cyclamen. Some varieties are very sweet-scented, and can be detected at once on entering the house by their perfume. These are mostly of the smaller flowering kind. The giant varieties are not scented, as a rule, nor do they throw so many flowers as the smaller ones. The plants are very effective when placed in blocks of colour, that is, a mass of white and one of red alternately.

A USE FOR ANNUAL FLOWERS.

We think the accompanying illustration, reproduced from a photograph taken in the charming garden of Lady Algernon Gordon Lennox, will interest those who have similar places to beautify. Here in a delightful way Poppies have been sown on the bank by water-side, and mixed with Foxgloves and other flowers. This is quite a new use for the Shirley Poppies, which here in the summer months make shimmering clouds of pink and colours as delicate as ever stained the Tea Rose. It is this free scattering of annual flowers that is so charming in the garden. The illustration shows the kind of effect possible by their use.

DENDROBIUM NOBILE.

We have received from Mr. W. Ward, gardener to H. Harrison, Esq., of Stanley, Blackburn, Lancashire, a photograph of a splendid plant of this Dendrobium, and we are pleased to give a reproduction of it. The plant has 217 flowers open at one time. Few Orchids are more deservedly popular than this fine species.

NOTES FROM BADEN-BADEN.

As to Cyclamen libanoticum, I must state that it has not proved hardy here; it was killed by frost penetrating the soil to a depth of 60 centimetres at 14° Fahrenheit. Still, I consider it a valuable plant, with a great future before it. Another fine species new to science and cultivation has been collected of late in one of the Cyclades, although these islands have been repeatedly visited by botanists. *Corydalis densiflora* is one of the

earliest of spring flowers and very pretty; it has showy heads of rose-purple flowers. *Iris attica* is the foremost of the rhizomatous section. It is only a few inches high and looks like a miniature *I. pumila*, the blooms varying through yellow, blue, and violet. *Campanula Steveni* var. *dasycarpa* is a charming early alpine. The flowers, 2 inches long and as much across, of deep shining blue, are borne on slender stalks only 6 inches in height. A new species of *Mertensia* from the north-western Himalayas is strikingly beautiful. It very much resembles a large-flowered *Myosotis*, but the colour is deep ultramarine changing to violet.

Baden-Baden.

MAX LEICHTLIN.

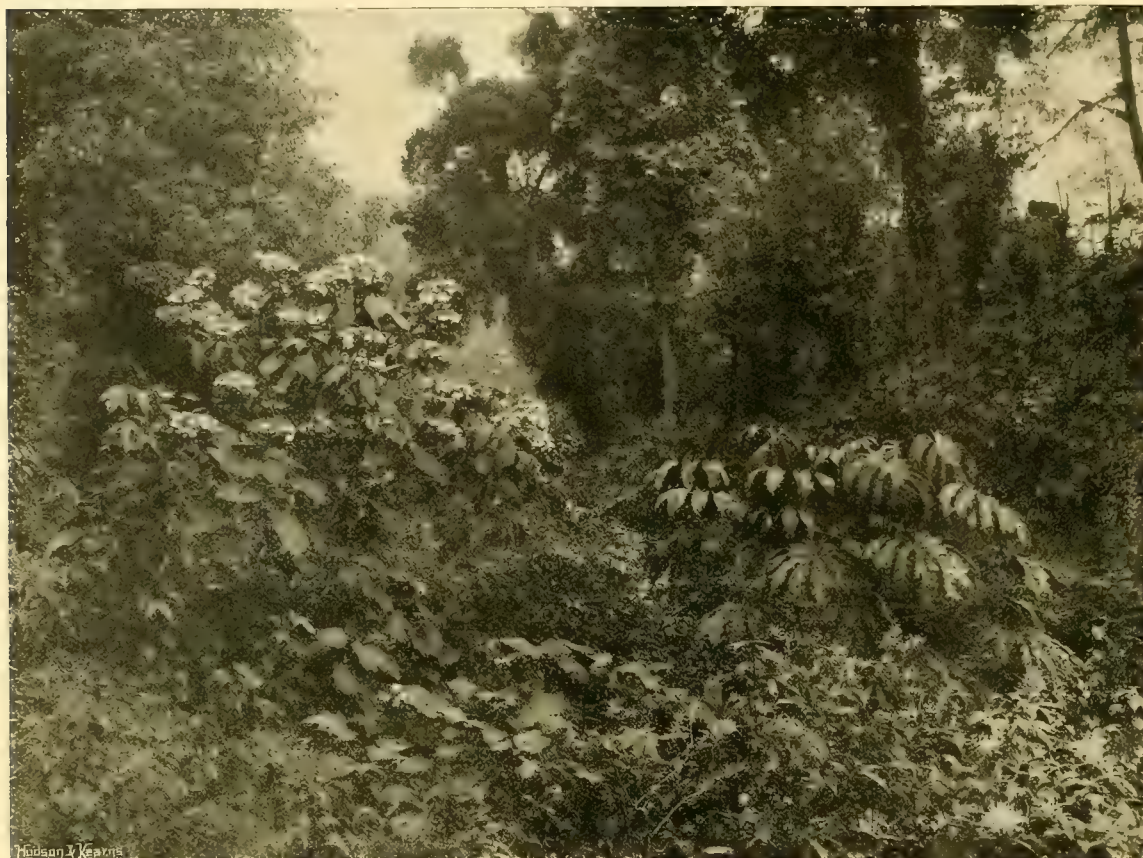
THE KITCHEN GARDEN.

TURNIP CARTER'S FORCING.

YOUNG Turnips are valuable in the spring, as, no matter how carefully stored, the autumn roots lose flavour when they grow out, and any variety that forces readily is worth noting. This variety differs from the ordinary Turnip in being of more rapid growth, and, when grown in heat, bulbs up quickly. The latter is a great gain, as the difficulty with forced Turnips is that they often run badly, and both time and seed are wasted. This is an oblong root, and, owing to its length, it is of great value in light, porous soils, as it draws more moisture from the soil and keeps longer in a solid condition. From seed sown in a frame on a slight hotbed, good roots may be had in ten weeks, and even less if drawn in a young state and sown thinly. For a first crop in the open it is equally valuable on account of it maturing more rapidly than others, and, with regard to quality, it is first-rate. The flesh is pure white, the top not coarse, and the root remarkably sweet.

A GOOD FORCING LETTUCE.

IN the early spring months there is a demand for Lettuce for salad, and those that have close, compact hearts are the kinds liked. These are not



WILD HYDRANGEA IN THE HIMALAYA.

autumn varieties; the latter, sown for spring, do not form hearts so quickly as the forced Lettuce of the Golden Queen type. The best forcing Lettuce I have tried for early spring supplies is the Golden Queen, and there can be no doubt that it is the quickest Lettuce to mature. Grown under glass from the start to finish, it may be had fit for table in less than three months if sown at the beginning of the year. Another point in its favour is its bright yellow colour. In the salad bowl this is a gain, as very early in the year blanched salads are none too plentiful. Seedlings planted out on a mild hotbed early in February will give good cutting material early in April, and if a frame cannot be spared, some boxes may be planted and grown under glass. Growth is rapid, and the produce will be valuable for early use. The plants will turn in much earlier than the autumn-sown seedlings.

G. W.

SAVOY CABBAGE UNIVERSAL.

IN cold winters or in the first two months of the year a good patch of Savoy is most valuable. Many growers sow the seed too early to get their best value. I fail to see any advantage in having them ready for use when there is an abundance of Cauliflower and White Cabbage. I prefer to sow the seed in May, according to the kind grown. All the large kinds are longer coming into use, are much coarser, and not to be compared in flavour to the kind above named and other small growers. This was one of Mr. Gilbert's raising, and a good kind it is, being quite distinct from others. The heads are conical, which is an advantage, as they do not hold the wet like flat-headed kinds, consequently stand the frost better. This was evident in our garden this year, where the two types were growing side by side. The Savoys were excellent, and kept us supplied until the end of February. Another advantage of the smaller kinds is that they do not need to be planted out so early. Our rule is to get them out the first or second week in August, after midseason Potatoes,

and I have sown seed of Tom Thumb early in July, planting them out thickly, and had an abundance of Savoy. Where close cropping has to be adopted, kinds that stand long on the ground must be avoided.

J. CROOK.

TREES AND SHRUBS.

HIMALAYAN HYDRANGEAS.

ABOUT half a dozen species of Hydrangea are known to inhabit the Himalaya, but not one of them has been proved of the same value in the garden as the best of those we have obtained from Japan, which, of course, include *H. hortensia*, *H. paniculata*, and their varieties. Japan is, indeed, both as regards the number of species and their value as ornamental shrubs, the headquarters of this genus. I am only acquainted with two species of Himalayan Hydrangeas under cultivation in this country. One of these is *H. vestita*, the other is *H. altissima*, a fine plant of which clothes one of the pillars in the large temperate house at Kew.

H. vestita.—This species occurs wild in the temperate Himalaya from Bhotan to Kumaon at altitudes of 8,000 feet to 10,000 feet, also on the Khasia Mountains at somewhat lower elevations. In these regions it becomes almost a small tree, attaining a stature of 15 feet. Even under cultivation in Britain, its growths are amongst the strongest and stoutest seen in the Hydrangeas. The ovate or oblong leaves are 4 inches to 9 inches long, toothed, and have sometimes a heart-shaped base. The young branches, the leaves, and the flower-stalks are all more or less hairy. The flowers are borne in flat corymbs and are white, the large, sterile

flowers being confined to the outer parts of the corymb.

H. altissima.—Introduced (according to Loudon) in 1839, this Hydrangea has always been rare. I am only acquainted with the specimen in the temperate house at Kew, alluded to above, and am not aware of the species having been successfully grown out of doors in this country. I should, in fact, suspect that it would not be hardy except in the south-western counties and places with a similar climate. It is a shrub of rambling or climbing habit, and bears a considerable resemblance to its near ally, *H. petiolaris* (or *scandens*), from Japan. The leaves, however, are larger, being 5 inches to 6 inches long, and ovate or cordate. The flowers, as in nearly all these wild Hydrangeas, are white and borne in corymbs, the marginal flowers of which are large and showy, but sterile, the central ones small and fertile. Mr. C. B. Clarke says of this species that it only differs from *H. petiolaris* (which is now a fairly well-known plant in gardens) by the flower having fifteen stamens, that of *H. petiolaris* having only ten. But the latter has a closer, more clinging habit, smaller leaves,

and is doubtless much hardier. In the arboretum at Kew it has been used to cover a large tree stump, and now forms a distinct and strikingly handsome mass during the summer. *H. altissima* is frequent in the Himalaya from Gurwhal to Bhotan at 4,000 feet to 8,000 feet altitude, and has also been found in Sikkim at 10,000 feet above sea level.

Other Himalayan Hydrangeas are: *H. aspera*, a tree-like species, sometimes 20 feet high; *H. robusta*, 8 feet to 15 feet high; and *H. stylosa*. All three occur in the Sikkim Himalaya.

Arboretum, Kew.

W. J. BEAN.

THE FLOWER GARDEN.

THE LESSER NARCISSI.

(Continued from page 353.)

IBELIEVE all the before-mentioned Narcissi dislike lime, and should be planted in granitic staple with leaf-mould or peat and sand. Of the lesser trumpets *minimus* is quite the earliest, and interesting from its great variety of form; it seems to mimic every one of the large garden sorts. I do not find it easy to keep over two years, but my soil, a thin cold clay over chalk, evidently disagrees with all the wild Narcissi. The late W. Ingram, of Belvoir Castle Gardens, grew it better than anyone I have known. It is a Spanish mountain or hill-side plant, and its home, if it will make a permanent one at all with us, is probably in the rock garden. The same may be said of minor, which, from the maintenance of its price, cannot increase very fast in the nurseryman's flat beds. *Nanus* grows and multiplies like Couch-grass anywhere, for which reason I take it to be a garden seedling. It is coarser than the two last-mentioned, though effective in mass, and will be happy enough in positions less aristocratic than the "reserved seats" of best

ledges and pockets. The little Pyrenean moschatus has been my despair in north-west Hampshire. It will sometimes vouchsafe to linger in a dwindling way for two seasons in grass, but as a rule shows emphatic detestation of soil, climate, and its whole surroundings by an abrupt decease. It is a gem among bulbous plants; its pure white flowers have a sparkling, Nerine-like "grain," and run through as many gradations of form as minimus. I know no specific for the nostalgia of this exile from some 6,000 feet up in the Pyrenees, but merely recommend it to those who are fond of an energetic and patient wrestle with an alpine. There are a few small garden forms of white trumpet Daffodil which should be added to the collection. White Minor is almost what its name implies in form and colour, but I think it scarcely exists outside private hands. Duchess of Connaught, Matson Vincent, and W. P. Milner are pretty, dwarf-growing, neat-habited varieties. A somewhat larger plant of Irish origin, Colleen Bawn, has singularly white flowers; it invariably dies out when grown on the ground line, and might be tried in a rock pocket with quick drainage.

Macleai, a plant of uncertain history, but stated in the excellent old "Cottage Gardener's Dictionary" to have been brought from Smyrna, and perhaps allied to the Eastern Tazettas, is a good dwarf plant and strong. Among the wild Tazettas there are some very pretty forms of small stature, which seem, unfortunately, to have dropped out of commerce. I used to grow a very good effective kind named *N. intermedius bifrons*, though it seemed a pure Tazetta, short and compact, with large heads of yellow and orange. *N. dubius*, once given me by Mr. Peter Barr, is a quite lovely pure white kind, with small, beautifully formed flowers. I found it unmanageable on the level. Two very distinct double Daffodils are worthy of a place in the rock garden, the neat little Rose-double Odonus and the star-shaped soft lemon Capax or Queen Anne's Daffodil. Both apparently desire to live in my beds, but cannot quite manage it for lack of something which they might perhaps find among rocks. The two Johnstonis, King and Queen of Spain, have a grace and delicacy which entitle them to a place on the rock garden or its border land. They seem tolerably persistent in grass or sharply-drained soil free from excess of lime.

The cleverest gardener will not find these lesser Narcissi quite easy to deal with, but I am certain that we add much to our difficulties by continually growing them from the bulb only. With scarcely an exception the kinds I have mentioned increase very slowly by offsets and ripen seed in abundance—clear enough finger-post to Nature's method of propagation. We are obliged to increase the larger "florist's" Daffodils from the bulb in order to keep them exactly true, but with these wildlings we are under no such restraint. I have noticed again and again that seedlings of even the most difficult subjects seem determined to live until they have fulfilled their mission of blooming once and perfecting seed for the continuance of their race. This done they may die, but what matters it if we have generations of seedlings following on in relay? Let seed then be sown annually round the parent clump or dropped into crevices with a pinch of soil in different aspects—sown, in short, in every way that it would be sown naturally. A reserve should for greater certainty be kept in boxes in a cold frame; one small frame will provide an ample succession of little bulbs to be planted out in their third year.

This leads to another consideration. As yet we have scarcely any hybrid Narcissi of what may be called alpine size. Pretty but somewhat frail plants between white Hoop-petticoat and triandrus have been raised by Professor Michael Foster and independently by myself. I have crossed some of the *Corbularias* with triandrus, and intermarried some few others of the pigmies. But my work has laid perforce chiefly among the larger Narcissi, and there remains an infinity of little jewels for the rock garden to be easily produced by cross-fertilisation. The miniature Italian poeticus of which I have written would create, in conjunction with minimus, minor, and nanus, an endless chain

of tiny incomparabilis forms, smaller even than Messrs. Barr's Little Dirk, which, by the way, I have omitted from my enumeration. If these were crossed again with the same poeticus there would result endless fairy-like Burbidgeis. The Pyrenean moschatus with poeticus would give miniature Leedsis—in short, we might have most of our garden Daffodils reproduced in miniature, and these flowers of mixed blood would prove far more amenable to cultivation than the untouched wild species. Some one may perhaps be stimulated to the industrious manufacture of what I may call hybrid alpine Narcissi.

GEORGE ENGLEHEART.

NURSERIES.

MESSRS. FISHER, SON, AND SIBRAY, LIMITED.

SITUATED within easy reach of busy Sheffield, yet sufficiently far removed from it to be practically beyond the reach of any appreciable amount of smoke, are the Royal Handsworth Nurseries of Messrs. Fisher, Son, and Sibray, Limited, of which firm Mr. William Atkinson is chairman and managing director, and Mr. W. Penrose Atkinson is a director. The most convenient method of reaching the nursery is to take the train for Darnall Station, on the Great Central Railway, although electric cars will take one from the heart of Sheffield (four miles or so distant) to within about a mile of the nursery. For 150 years has the firm of Fisher, Son, and Sibray been established at Handsworth, and a sight of the nursery now would do good the hearts of those who speak of land being impoverished after some years of culture. That at Handsworth is very far from being in such a condition. The visitor cannot fail to be forcibly struck with the almost absolute uniformity of the specimens of hardy and tender plants in great variety that are cultivated upon the 200 acres or more comprising the nursery. It matters not where one may look the Rhododendrons, Conifers, Hollies, deciduous ornamental trees, fruit trees, &c., are alike in that they are splendid examples of good culture, the

bush evergreens are invariably as broad as they are high. The masses of

RHODODENDRONS,

some of which are already in bloom, are particularly fine, the foliage could not be a healthier green, nor could the plants be more full of flower buds. Two varieties, known respectively as Handsworth Early White and Handsworth Early Scarlet, are appropriately named, for their flowers have been open so long that even now they are practically over. Handsworth Early White is a particularly good Rhododendron for forcing. Another new early variety, and one of the most beautiful we know, is Lady Albretha Fitzwilliam. The trusses of bloom are wonderfully good, and a pure white. This is undoubtedly one of the finest Early White Rhododendrons in cultivation. Others well deserving of mention are *Caucasicum album*, pure white; *Blandyanum*, rosy crimson; Countess Fitzwilliam, bright carmine-rose with dark spots; this is a very free-blooming variety and bears an immense truss; Charles Dickens is a dark scarlet; J. Marshall Brooks, a rich scarlet with bronze spots; Mrs. John Clutton, a beautiful white, and Sir Joseph Whitworth, a dark lake, spotted. Hybrid seedling Rhododendrons are numerous represented at Handsworth, and are to be recommended to those not caring to purchase named kinds. They are saved from the best named varieties, and in many cases produce blooms almost equal to them.

ORNAMENTAL TREES AND SHRUBS.

Never before has so much interest and appreciation been shown in this class of hardy shrubs as is the case at the present time, nor can one wonder at this when there have been of recent years so many valuable introductions placed before the public. With such a great variety of subjects from which to choose we may hope soon to see in the majority of gardens some of the brighter and more interesting shrubs made more use of than is now too often the case, and less space given to Laurels, Privet, and Pontic Rhododendrons. What, for instance, can be more worthy of inclusion in a garden than the golden and variegated kinds of the Oak, Elm, Alder, Elder, Beech, &c.?

The Golden-leaved Oak (*Quercus Robur concordia*) is thought very highly of at Handsworth, as also is *Q. R. argentea*. The scarlet Oak *Q. coccinea* (that turns such a beautiful colour in the autumn) is another particularly useful one.



GROUP OF SARRACENIAS SHOWN BY MR. R. J. MEASURES AT THE TEMPLE SHOW. (See report.)



GREENHOUSE RHODODENDRONS AT HANDSWORTH.

Conspicuous amongst the Elms is the Wheatley Elm, an erect, compact, and strong-growing variety, in great demand for street and park planting. Messrs. Fisher, Son, and Sibray export large quantities of this tree (perhaps more than any other) to America. *Ulmus Wredei aurea*, that has bronzy yellow foliage beautiful throughout the summer, and *Ulmus Louis Van Houtte*, a quick-growing variety, with a large golden leaf, and *Ulmus aurea Rosseelsi*, a handsome tree, with charming golden foliage, are other good Elms. This latter is grown on stems 4 feet to 6 feet high, and makes a splendid park tree. *Alnus glutinosa aurea* (the Golden Alder) is a valuable golden-leaved plant, while the Fern-leaved Alder (*A. imperialis asplenifolia*), with its deeply cut foliage, forms a particularly handsome lawn specimen. Many varieties of Beech are now in cultivation, and from these alone an excellent selection of decorative plants might be made. *Argentea marginata*, *asplenifolia* (Fern-leaved), and *aurea marginata* (this one is particularly beautiful in a sunny position) are sufficiently self-descriptive, and all are very deserving of planting where variety is required. *Cristata*, having crested foliage, purple *pyramidalis* (the young growth is quite a crimson scarlet), purple Norwegian, a tree of weeping habit, with dark glossy leaves, and *purpurea rosea marginata*, a very handsome variety, are some of the best. Messrs. Fisher, Son, and Sibray hold perhaps the largest stock of Limes in Europe, and two of the most effective undoubtedly are the Handsworth crimson-twigged and the scarlet-twigged. For avenue or street planting these, on stout stems from 6 feet to 10 feet high, are indispensable. The golden-leaved form of the Elder (*Sambucus racemosa foliis aureis*) is now fairly well known, but it deserves reference as one of the brightest plants possible for a shrubbery. The sorts of ornamental trees above-mentioned are but a very few of the collection of beautiful foliaged trees in the Handsworth nurseries, but they may serve to show what a wealth of material is now at hand for the beautifying of our shrubberies and arboreta.

JAPANESE MAPLES.

Visitors to the Temple show invariably have the pleasure of seeing an exhibit of these plants (perhaps the most beautiful of all hardy deciduous shrubs) from the nurseries of Messrs. Fisher, Son, and Sibray, Limited, and they are always greatly admired, for a speciality is made of them in this Yorkshire nursery. They are to be seen here in thousands, from 1 foot to 6 feet, in the finest possible condition. It is almost impossible to

describe the lovely colours comprised in the now numerous varieties, but we may at least indicate just a few of the best. In our opinion none is more beautiful than *palmatum dissectum sanguineum*, whose deeply-cut leaves are a rich red; the golden-leaved *japonicum aureum*, *palmatum dissectum*, *p. d. rubrum*, *p. d. reticulatum*, and *Polymorphum atropurpureum* are a few others.

DECIDUOUS FLOWERING SHRUBS.

A new *Cytisus* that will shortly be sent out from Handsworth is one of the best of its class that we have seen, and will undoubtedly take high rank as a new flowering plant. It is called *Handsworthensis*, and may be described as an improved *Schipkaensis*; the flowers are almost pure white, and the standards that we recently saw in the Handsworth nursery were quite covered with flowers. Of the useful Lilacs a most

representative collection is grown, both as pyramids and standards. A few of the double varieties of recent introduction are *Mme. Abel Chatenay*, milky white; *Mme. Lemoine*, large white flowers; *President Carnot*, lilac shade; and *Abel Carrière*, very large racemes of rich blue flowers. The *Weigelas* are very attractive flowering shrubs, some varieties of which, however, are much better than others, as, for instance, *Eva Rathke*, bearing rich dark red flowers; *Looymansii aurea*, with golden foliage and bright pink flowers; *Abel Carrière*, rosy carmine; and *Candida*, snowy white. *Ribes aureum*, an early yellow-flowering Currant, is one of the best early blooming shrubs for general use, though not nearly so commonly planted as its relative *R. sanguineum*.

EVERGREEN SHRUBS.

The *Berberises* rank high as evergreen-flowering shrubs, and no collection of the latter would be complete without them. It is interesting to learn that *B. stenophylla*, perhaps the most popular of all, certainly the most graceful and the prettiest, originated in Messrs. Fisher, Son, and Sibray's nursery. Here may be seen *stenophylla* hybrids, seedlings that vary considerably in form and colour, yet strongly to be recommended on that account. There are not many who appreciate the common *Mahonia* (*Berberis aquifolium*) at its true worth, yet to see it as it is in the Handsworth nursery is to pronounce it a handsome decorative shrub. *Aucuba japonica variegata* (of which there is here a large stock, so valuable for planting in smoky districts when well berried), is highly attractive. The *Aucuba* being dioecious, it is, of course, necessary to plant both male and female plants together. Nowhere have we seen that valuable late summer-flowering shrub

OLEARIA HAASTII

thrive better than in the Handsworth nurseries. Its vigour and healthy appearance are astonishing, as indeed are a great many more plants that must of necessity be left unnamed. Few gardens can afford to be without the useful Box, and wherever required for shrubby planting, the variety *Handsworthensis*, a broad-leaved one of compact habit and beautiful green foliage, should be given a trial. Messrs. Fisher, Son, and Sibray have long been famed for their collection of green-leaved and ornamental-leaved Hollies. Of the former, *Ilex crenata*, a pretty dwarf species, *Marnockii*, noted in THE GARDEN of last year, *Mundyii*, and



JAPANESE MAPLES IN THE HANDSWORTH NURSERIES.

Wilsoni are of the best. The two last-named were raised at Handsworth, and I. Wilsoni received a first-class certificate from the Royal Horticultural Society in May, 1899. The gold and silver margined varieties here include many with beautifully-marked foliage. Other plants most useful for town planting are Tree Ivies; they stand the smoke well, and comprise a great variety of colour. Messrs. Fisher, Son, and Sibray make a speciality of standard Tree Ivies, so useful for planting amongst low-growing shrubs. The Conifers are well worthy of detailed mention, but this must perforce be denied. They are, as has been before said, remarkably uniform in size and quality, and denote the best and hardiest of culture.

PLANTS UNDER GLASS.

Not only out of doors but under glass also is the visitor forced to the conclusion that plants are thoroughly well grown in this Yorkshire nursery. The Crotons, even at this early season, are wonderfully well coloured, and it goes without saying that the best and latest varieties are contained in the collection. Palms are extensively cultivated, and the stock of greenhouse Rhododendrons—including four new varieties shortly to be sent out: Duchess of Portland, Duchess of Westminster, Countess Victoria Yarborough, and Jasminæflorum Handsworth var.—and Azaleas is unusually good. One variety of Azalea amoena, called Illuminator, a remarkably persistent bloomer, bearing flowers a glowing rosy crimson in colour, is one of the best, and although quite a new one, has evidently come to stay, and the same may be said of that charming greenhouse Rhododendron, Lady Alice Fitzwilliam, that produces exquisite white flowers. Cool house flowering and evergreen plants, such for instance as Lapagerias (of which there is one of the finest lots we have seen), Phormium tenax and varieties, Araucarias, Euonymus, Dracenas, and Yuccas fill several houses, and in themselves constitute an important department. It would be impossible to individually mention even a portion of the plants that are grown under glass in the Handsworth nurseries; to describe even the Orchids, and refer to the large quantity of flowers grown for cutting alone would take long, and the various propagating houses themselves contain much that might with advantage be described. With this casual reference to them, however, and to the Royal seed warehouses of the firm in Sheffield and Rotherham, we would close this brief description of a nursery wherein good culture and thorough superintendence are apparent.

GARDENING OF THE WEEK.

ORCHIDS.

THE PHALÆNOPSIS.

FEW Orchids are so beautiful as the Phalænopsis, *P. schilleriana*, *P. sandersoniana*, *P. amabilis*, and *P. stuartiana* being among the most interesting. These produce their large branching spikes, bearing many handsome flowers, during the dull season of the year; they last a long time in perfection when grown away from smoky centres. When cultivated near cities and large towns, smoke and fogs injure the buds and blooms at that season. The flowering of the plants may be deferred until a somewhat later period, when fogs are not so prevalent, by pinching back the

flower spikes to within one or two points from the plants; the flowers are thus longer preserved, although neither the spikes nor the flowers may be quite so numerous or so strong. Success in the cultivation of Phalænopsis is not so easily attained as in the case of many other Orchids, great care and attention being necessary to bring this class of plants to perfection. Coming as they do from the hottest parts of the world, they must of necessity require a high temperature. If a house can be devoted to their cultivation, so much better can the details of cultivation be carried out. The house should be fitted with an abundance of hot-water pipes. When pipes are few they often become over-heated to maintain the temperature required.

Phalænopsis revel in a humid atmosphere, and a temperature ranging from 65° to 70° by night and 70° to 75° by day, during winter, by fire heat; the minimum temperature to be provided during severely cold weather, during spring, summer, and autumn must be from 70° to 75° by night and 75° to 80° by day.

The plants should be well shaded from the sun at all times, for if allowed to shine direct upon the foliage for but a short time only the large fleshy leaves would soon be disfigured. Air should be sparingly admitted by the lower ventilator during

decayed manure dug in and placed at such a depth to enable the roots to reap the benefit of it. Place a stick to each plant, to which secure the leaves, as it facilitates root action if the existing leaves are kept in as long as possible. A good watering should follow, and this and frequent syringings in bright weather should follow for some time. As growth is made weak liquid should be afforded, say, twice weekly. In the case of Calla Little Gem the best results are obtained by confining in pots and given somewhat poor soil.

CALLA ELLIOTIANA.

This handsome form is now at its best, and, should it be decided to increase the stock, a few of the strongest plants should be set aside and the pollen distributed. This subject comes very readily from seed, as out of a few plants bought four years ago we have now nearly 200 strong plants.

PRIMULAS.

Few gardens are without a batch of these useful plants, and if seed were sown as advised the seedlings will be in a sufficiently forward state to permit of being placed singly into 2½-inch pots. Give a light, porous soil with a few pieces of charcoal in the bottom of the pots. A position of comparative shade in a comfortable temperature should at this stage be afforded, and frequent



RHODODENDRONS AT HANDSWORTH.

mild weather, and water freely applied to the root during the growing season; in winter the plants must be watered with care, allowing the plants to become moderately dry before applying water. At this season the plants are commencing to grow, and any necessary repanning or rebasketing should now be done, pans being most suitable for small plants, but baskets should be used for larger specimens. For those that do not require more rooting space, a surfacing of fresh sphagnum moss will alone be necessary. F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, N.

THE INDOOR GARDEN.

CALLAS (RICHARDIAS).

THESE will have finished flowering, and the question has again to be faced whether they should be planted out or simply ripened off, stood on their sides and shaken out and repotted in August. There are advantages to both systems, and I would advise those who have large conservatories to fill where bulk of plants counts something to plant out at once, breaking up the bigger stools whether it is desired to increase the stock or not. By this means the more useful crowns are selected. A trench in a somewhat shady position in the garden should be chosen, and a liberal portion of well-

sprays of the syringe on the tender foliage will assist in establishing them in their fresh quarters. There are many varieties of the Chinensis type, and to enumerate them here would be superfluous. Of late another type has come into notice, and one which doubtless has a long future in front of it, viz., *P. stellata*. This is well adapted for associating with other plants, as its loose habit of growth and brilliant star-like flowers make it conspicuous.

CINERARIA.

Though still too early to make the main sowing, a pinch of seed might, however, be put in. The seedlings will come into flower in autumn. I always save my best plants, or at least the best types of flower, and stand them on a bed of ashes in a cool pit and allow the seed to drop and germinate in this way. The seedlings grow away sturdily from the start. J. F. McLEOD.

Dover House Gardens, Roehampton.

FRUIT GARDEN.

MELONS.

If seed was sown a month ago there should now be strong plants, and as regards their culture much depends upon the means to grow them. Now, that is, from May to September, Melons may

be grown successfully in ordinary frames, and though more attention is required at the start in the way of setting the fruits, the culture is simple if the plants get ample heat and moisture; the former by careful ventilation, and not allowing the plants to get dry. In an ordinary Melon house fruits or plants raised from seed early in the year will now be swelling freely, and it will be advisable to feed those carrying a good crop. With regard to food, it should be borne in mind that the season is short in which the plants have to mature their fruits, so that whatever food is given should be readily absorbed. I like liquid manure at this stage both for Melons and other fruits that make a rapid growth; at the same time, there are excellent quick acting fertilisers which if used in a liquid state or as top-dressings are most valuable. By maintaining ample atmospheric moisture the plants will be clean, that is, free from red spider. The latter is one of the most troublesome pests Melon growers have to contend with in modern Melon houses, as in some it is difficult to maintain a moist atmosphere. If possible it is a good plan to have evaporating pans. These filled with weak liquid manure will keep the pest at bay. The temperatures should be liberal, 80° to 90° by sun heat, closing early in the afternoon and allowing the thermometer to run up freely, with ample syringings in all parts of the house. The night temperature may range 70° on warm nights, and any lateral or weak growth should be stopped, but care should be taken to have sufficient growth beyond the fruits to assist in swelling.

FRAME MELONS.

Pits heated with hot water need much the same treatment, but less moisture at the roots, and as the frames retain more moisture than houses less syringing will suffice. The frames or pits should be closed early in the afternoon. Also endeavour to get the first flowers that show to set, and secure three or four fruits on a plant. If one is set singly this goes away freely, and others do not if set later. Remove weak or useless growth, and as soon as the fruits are large give enough support, if on the soil by inverted small pots. This keeps them clear of the soil and insect pests. Melons in unheated frames should be carefully ventilated. It may be necessary to shade in bright sunshine for a short time if the plants are close to the glass. The plants should be trained to fill up the space at command, but avoid crowding of foliage, as the latter will prevent fruits setting freely. If inclined to grossness omit foods; also secure more fruit on each plant. Avoid fluctuation of temperature, and on cold nights the plants are much benefited if the glass can be covered.

BANANAS

are more grown under glass now than formerly, and at this season plants full grown should throw up their fruit. To do this abundance of food and moisture should be given and a liberal temperature. That advised for Melons is suitable, and the house during the day should be well charged with moisture. During the time the plants are pushing up the fruit till the pods or fingers are developed overhead syringings must cease; indeed, at all times it is best to syringe the under side of the plants, as the large mid-rib acts as a drain, conveying the moisture to the centre of the plant; this often causes decay. Young plants should be potted on or planted out, giving good compost at the same time. If when potted on the soft succulent roots are not broken the plants will grow more rapidly. Young sucker growths should be detached from the parent plant and potted, and if a little bottom heat can be given so much the better. Suckers taken now, if strong and grown on as advised, will make fruiting plants for next year, but do not overpot in a small state; it is far better to shift on as required. G. WYTHES.

Syon House Gardens, Brentford.

KITCHEN GARDEN.

BRUSSELS SPROUTS

sown early in the year and pricked off under protection will now be ready for planting out, and if the weather is favourable no time should be

lost before the work is accomplished. If the weather be still dry when the plants are ready the drills may be drawn at the proper distance apart and well saturated with clear water the day previous to planting. Where early Sprouts are in demand one cannot afford to wait for the weather after the plants are fit to put out, but must make the best of whatever means we have at our disposal to forward this important crop. Three feet should be allowed between the rows to ensure sturdy growth, and a liberal supply of water given until the plants are established, after which they may receive occasional dustings of artificial manure and frequent stirring of the soil with the Dutch hoe.

CAULIFLOWERS

sown in the spring may be treated in the same way, but the distance between the rows need not be more than 2 feet. The ground on which this crop is to be grown can hardly be too rich, and the plants must not be allowed to become stunted for want of water or premature buttoning will result. Spring-sown Cabbage may also be planted out to form a succession to those sown last July and planted out in September, a great number of which have run to seed here this season. Of Hill's Incomparable quite one-third have bolted, while Ellam's Early Dwarf has proved a great success, hardly any running to seed. A batch of the last-named variety, sown a fortnight earlier than the general crop, has given a supply of nice young Cabbage all through the early spring, and proved to me that there is nothing better for sowing in July and planting in September than Ellam's Early Dwarf.

GLOBE ARTICHOKE

should be examined and the suckers thinned to four or five on each plant, this number being quite sufficient to ensure the best results, after which the ground between the plants should be mulched with a few inches of manure. At any stage of decomposition it is a good plan to mulch the ground between the rows of many garden crops as soon as the dry weather has really set in, in order to counteract the effects of strong sun on the soil and secure a more equable state of moisture about the roots. Peas and Scarlet Runners benefit greatly by this treatment in dry weather, and even in wet weather, for it is much better for the soil that, while gathering the crops on wet days, there should be a covering of some kind to keep it from injury by continual treading about.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

THE FLOWER GARDEN.

PLANTING.

A RULE that I have followed for many years is to delay the planting of all tender plants until after May 25, and then, if the weather is mild, to push on the planting of such things as quickly as possible, beginning, of course, with the less tender things and working up to Begonias, Cannas, and sub-tropical plants, which may safely occupy their outdoor positions by the second week in June. It frequently happens that we have a cold snap about May 22-25, and tender plants put out before this are apt to get caught and stunted. If a scheme for planting has been arranged and plants worked up in accordance with it the work itself ought to go on pleasantly and without a hitch, leaving on hand a reserve of plants of all kinds from which may be drawn sufficient to fill up any blanks that may occur later, as a few deaths are scarcely to be avoided.

Designs for planting bedding plants must be a matter of individual taste to a great extent, but it is safe to recommend that all combinations of plants ought to be so arranged that all in each combination are at their best at the same time, for in these arrangements one must avoid the flowerless blanks that are permissible in a mixed border. Another point which adds much to the scheme of arrangement is to try and give each plant the position for which it is best suited, and in which it will give the brightest and longest succession of flower. This is a point not always studied, and the result of such an oversight is often that plants

which naturally enjoy shade are found half burnt up in some sunny position, and those which care most for sun and flower best in a poor soil are found planted in shady positions and rich soil. A little forethought would prevent bad work of this sort. Showery weather is the desire of all during the planting season, but it is not always to be had, and means must be taken for watering in all newly planted stock, and attending to its wants in that way until it gets established. Surface rooting plants and small seedlings are especially apt to suffer, and watering in their case should be supplemented with the provision of shade if the weather is bright and parching. Should the soil in the beds be inclined to "run" owing to drought, each bed should be well soaked with water a few hours before planting, as the soil will then be found in condition for packing round the roots. In very bright weather I prefer to delay planting during the hottest part of the day, and doing most of the work in the afternoon and evening. The spare time can be well utilised in carrying the plants to a handy position near the beds and in attending to their wants as to watering, so that they may lift out with good balls of soil attached. If possible all tender plants should be taken to the beds in the pots, boxes, or other receptacles in which they have been grown, so that they will only need to be handled once after being lifted or turned out. Carrying them to and fro in baskets after lifting from frames is only feasible when the plants are particularly well rooted, and in consequence of this I much prefer pricking off into boxes that are easily carried from place to place. All newly-planted things should have the soil made firm about the roots, so that air cannot reach them, and be well watered in, continuing the latter as frequently as necessary, and choosing the evening for its application.

HARDY ANNUALS.

Those sown some weeks ago will be in need of thinning, first singling them out, and then, when danger from slugs has passed, reducing to the proper distance apart, which is generally about double the distance usually afforded. The room taken by a well-developed plant should be the guide to this, and rigidly adhered to.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

CHRYSANTHEMUMS.

PREPARATIONS FOR THE FINAL POTTING.

THE majority of the plants intended for large flowers in November should have well filled their pots with roots and be ready for transferring into the sizes in which they are to bloom by the end of the present month, or, at the latest, the end of the first week in June. There is a difference of opinion among growers as to the most suitable size, but after many years' experience I do not hesitate to give preference to 8-inch, but, at the same time, this rule need not be a hard and fast one, as some of the stronger and more robust kinds will do equally well in a size larger and those of a weaker constitution in one size smaller, but no doubt it is far safer to err on the side of too little rather than too much pot room. This may incur more attention as to watering and feeding, but I am fully convinced that better results will be seen in the end. The great danger of overpotting is that the plants are liable to become over-watered, especially before they have become well rooted. A long spell of hot weather will often account for this, and when once the soil becomes very sour the plants will receive a severe check, which no amount of after care can possibly make up for. Everything should be properly prepared and got in readiness. Decide on the number of plants that can be well managed and housed, a most important rule to study. The pots should be thoroughly washed and also the drainage, the compost, if possible, being prepared a few days before using and placed under cover. Good sweet loam of a medium texture which has been cut and stacked since last autumn should form the principal item. This should be pulled to pieces with the hand to about the size of Walnuts. To every two bushels add a

6-inch potful of Clay's or Thompson's prepared manure, one of half-inch bones, and one of finely broken charcoal. Should the loam be of a tenacious nature, add sufficient road grit or finely sifted mortar rubbish to keep it open. The whole should be turned several times, so that each ingredient is thoroughly incorporated, and if this is turned each day till used so much the better.

Drainage is of the utmost importance for the future welfare of the Chrysanthemum, for, though a moisture-loving plant when in good health during hot weather, no plant more resents stagnation. Commence by placing one large crock in an inverted position over the hole, over which arrange coarse pieces, gradually building it up with finer material until there is sufficient to conduct the water away freely. A small quantity of half-inch bones should be placed over this, and then a thin layer of fibre with every particle of soil removed by rubbing it through a half-inch mesh sieve taken from the loam-heap. This should be carefully placed over the drainage, so that none of the potting material can possibly interfere with a free watercourse. Each plant should be carefully examined and watered when required a few hours before potting, allowing sufficient time for the soil to become drained. None should be potted in a dry state. If the soil is in a good condition, as it ought to be, firm potting should be insisted on, thoroughly ramming the soil with the potting-stick, placing a little of the finest of the compost over the surface loosely, and finish off in a neat and workmanlike manner. Place a neat stake to each plant before leaving the potting shed, and damp over the surface just sufficiently to set the last addition. Defer watering in for a few days, but frequent syringings during the day to keep up the foliage from flagging should be given them. The plants after potting may be placed pot thick for a short time, choosing a sheltered position. Always be on the alert in case of frost, and apply sufficient protecting material when needed to make them safe.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

FORCING STRAWBERRIES

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I quite agree with Mr. Wythes as to the necessity of giving Strawberries that are being forced a low temperature at first. No doubt many a batch of plants is ruined by being started in too much heat. A few varieties, notably Vicomtesse Héricart de Thury, will set well in a comparatively high, moist temperature, but even these do best when less heat is given. One of the earliest batches of Keen's Seedling I ever saw were grown in 4½-inch pots, these being plunged in a warm bed of leaves close to the glass in a pit, the temperature for a time being about 45°. Growth was very gradual, but the bloom-trusses were strong and the fruit set freely. Finally, they were removed to a warmer house, where they ripened at the end of February. One gardener I served under used to force Keen's Seedling very successfully. The plants were layered in the fruiting pots, and, when sufficiently rooted, were removed to an open quarter, from which early Cauliflowers had been cleared. Here in the full blaze of the sun they grew vigorously and developed large crowns. In November a batch was removed to a lean-to Peach house and placed on shelves, which were fixed to the wall close to the ventilators. The house being old-fashioned, the panes of glass were small, and the numerous laps allowed of a free ingress of air. This just suited the Strawberries, the fruit invariably setting freely. It also suited the Peaches, fine examples of the old Noblesse and Stirling Castle ripening at the end of May. By the way, how few now force Noblesse! When the Strawberries had swelled a little they were removed to a Pine stove, where

they ripened well, the colour and flavour being all that could be expected in a forced Strawberry. I have still a good word for Keen's Seedling. I am aware it is not a good traveller, being too soft, but as an all-round forcer and for colour and flavour few varieties surpass it.

J. C.

GROWING LAVENDER.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—On seeing the picture of the Lavender hedge in your issue of May 11, I venture to ask for some hints as to the best time for pruning, and, also, whether you can tell me what makes an occasional plant in my Lavender hedge go off suddenly?

I have a Lavender hedge on one side of an old-fashioned rabbit railing which surrounds the parterre. On the inner side there is a hedge of pink China Roses. Suddenly, last autumn, one of the Lavender plants died, and the next one to it looks as if it meant to follow its companion. I cannot detect any cause at the root. I may mention that my Lavender hedge is at present very beautiful with quantities of Parrot Tulips. They have come up through it for the last three springs in a most delightful manner. The grey background and natural support given to these drooping-headed Tulips seems to me all that could be desired.—A. J. B.

[Our correspondent's question is an interesting one, and we regret that we are unable to give any definite answer as to the cause of sudden death of Lavender bushes. Perhaps one or more of our readers may be able to assist "A. J. B." and ourselves. This way of suddenly dying, though not so common in the case of Lavender, is frequent with Rosemary and several of the Cistus family. We have to remember that these are plants of the extreme South of Europe and Mediterranean region generally, rejoicing in a stony soil and fierce sun-heat. It is a wonder that they will accommodate themselves so kindly as they generally do to the varying conditions of English gardens. This dying off now and then seems like an occasional protest on their part as if to remind us that, though they have been with us so long, we have come to look upon them as English plants, that they are true Southerners at heart and cannot be absolutely acclimatised. If Lavender is wanted as a dwarf grey hedge, not for flower, it should be pruned in the spring, but, if flowers are wanted, in the autumn.—Eds.]

United Horticultural Provident and Benefit Society.—The committee's action at its last meeting in authorising the pay-



ROSE JERSEY BEAUTY, SHOWN BY MESSRS. WM. PAUL AND SON, WALTHAM CROSS, AT TEMPLE SHOW.

ment of £55 odd due to the widow of the late Mr. Michael Davis, is, indeed, an object-lesson. In illustration of the poor support given by British gardeners to this truly grand institution, I note the following facts: Before me, as I write, are three publications, all having an interest for gardeners. One is the "Annual Report" of the society in question. I turn over its subscription list, which comprises some fourteen pages—on each page there are about fifty-eight subscribers. A simple sum in multiplication gives this as a result 800 odd. I now turn to the "Garden Annual and Horticultural Directory." I find therein recorded the names and addresses of what must amount in the aggregate to many thousands of gardeners, and of this vast number only some 800 odd belong to the United. What is the cause of this very deplorable apathy amongst the craft? For some two years I know the aims of the society were not so well known to gardeners as they should have been. An improvement during the last decade or so has been made in this important matter, and even now it is my humble opinion that much more might be done to bring the society prominently under the notice of gardeners in order to secure their practical adhesion.—Quo.

A high-priced variety of Odonoglossum crispum.—At a recent sale of Orchids by Messrs. Protheroe and Morris a finely spotted variety of *O. crispum* fetched 150 guineas.

Gardeners' Royal Benevolent Festival Dinner.—A large company assembled at the Hotel Metropole on Wednesday last, under the chairmanship of Lord Llangattock, to celebrate the sixty-second anniversary of this splendid institution. We shall report fully the proceedings next week, but meanwhile say that the Dean of Rochester made a delightful speech, and the total amount of subscriptions was £1,760.

The Dean of Rochester and Mrs. Hole were on Tuesday last the recipients of a very gratifying address from the mayor, aldermen, and burgesses of the city, who tendered their hearty congratulations to the Dean and his wife upon the fortieth anniversary of their wedding-day.

Flowers for Millwall.—The Rev. Richard Free, St. Cuthbert's Lodge, Millwall, London, E., writes:—"Will you allow me, through the medium of your paper, to invite your readers to help us in an effort we are making to brighten this dreary and uninviting neighbourhood. We are just starting what we call a Window Gardening Society, and, as our people are extremely fond of flowers, I anticipate for it a very useful future. Our difficulty is to get bulbs and seeds for distribution, and if any of your

readers have such things at their disposal, I shall be glad to receive them on behalf of our people. When I tell you that flowers are practically unknown here, that we have only two or three very small trees in the whole of this district, and not a single grass plot on which our children can play, you will understand that we are very bare and towny indeed."

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

TEMPLE SHOW.

THE exhibition of the society in the Inner Temple Gardens, on May 22, 23, and 24, was in every way a pleasant and important affair, and we have never seen a larger crowd. Of course, the glorious summer-like weather was in part responsible for this satisfactory attendance, and partly because so many new Fellows have been elected since last year.

Orchids, as usual, made a splendid display, the leading trade growers contributing, however, the chief collections. There were splendid groups of *Calceolarias*, *Cinerarias*, *Gloxinias*, hardy flowers, fruits and vegetables, &c., that go to make up a summer show.

HARDY FLOWERS.

As usual at the Temple, hardy plants were numerous, and reflected much credit on the growers of this well-nigh endless race of plants. Probably the most interesting group was that of Messrs. Wallace, Colchester, who combined the beautiful and graceful with the more showy and rare bulbous flowering plants. Here we noted an almost endless array of *Lilium thunbergianum* or *elegans* in many colours, charming blocks of the new *Lily L. rubellum* with drooping rose-pink blossoms, *Calochorti* and *Ornithogalums* blending together in a light array, and such finer things as *Lilium Henryi*, *L. Harrisoni*, and many *Cypripediums* of the hardy class rightly grouped with the North American Maidenhair Fern. There were, too, hosts of *Ixias*, *Sparaxis*, Spanish Iris, and their still more curious brethren, the Cushion or *Oncocyclus* Iris in plenty, of which space at present forbids mention.

Messrs. Barr, of Covent Garden, filled a great space with Tulips of all sections, particularly those of the Darwin group, which were exceptionally fine and good; also Irises in many beautiful shades and varieties. Of particular interest were the early Gladioli, the tints beautiful to a degree. Then came Pæonies of the tree section, Oriental Poppies, a mass of the double White Arabis, towering spikes of *Eremuri*, the pretty *Globularia*, and many interesting things in the more strictly alpine flora. Of rather exceptional interest the double yellow *Alyssum* may be mentioned, and the pretty *Hyacinthus amethystinus*.

The Guildford Hardy Plant Company was, as formerly, represented by a rockery exhibit creditably and prettily arranged, indeed, well arranged, when all the surroundings and circumstances are taken into account, representing as it did a small alpine rockery. We noted in the foreground masses of the vernal Gentian, as also the old garden form *G. acaulis*. Then, in well-selected groups, came *Androsaces*, *Ramondia pyrenaica*, *Primula involucrata*, mossy *Saxifragas* such as *S. atropurpurea*, *S. Rhei*, groups of the Cobweb House Leek, the pretty scarlet of *Ourisia coccinea*, masses of *Trillium*, *Heuchera splendens*, with *Orchis foliosa*, *Cypripediums*, and other allied subjects. Some little colour was seen here and there, but it was carefully arranged so as not to produce an overpowering effect. The rockery formation was good, and the background of small shrubs very pleasing.

Messrs. Cheal and Sons, Crawley, had a corked arrangement fitted up with plants. In this the smaller alpine were those mostly employed, and with Pansies and Violas made a very pretty array of colour.

Mr. Amos Perry, Winchmore Hill, had a very

fine group of good things shown for the most part in bold masses and pans that well displayed their worth. In this way the Geums were conspicuous, also many Iris *pumila* varieties that are evidently of some worth for the spring garden. Other Irises and Tulips, with Globe Flowers, Oriental Poppies, the double white Arabis, were all in fine form, and made a splendid array. Of rare things *Polemonium confertum melitum* was good, and *Lithospermum canescens* with golden flowers, a charming acquisition. A little gem is *Leucocrine montana*, with white Crocus-like flowers. Then came *Dianthus alpinus*, a lot of Iris *Korolkowi*, and many other plants of interest.

Mr. Maurice Pritchard, Christchurch, Hants, is always an exhibitor at this great show, and his masses of single and double Pyrethrums are so much earlier than those near London, and always admired. *Olearia gunniana*, with white starry flowers, was pretty indeed, and not less so the miniature *Cypophylla cerastioides*, that carpets the earth with verdant green, *Centaurea angustifolia*, with red flowers as good, and so, too, was *Epimedium niveum*. The more showy things, such as alpine Phloxes, Geums, Irises, *Thalictrums*, and *Pæonia tenuifolia* were in abundance, and generally well shown.

Messrs. Veitch and Sons, Exeter, are new contributors to the hardy plant collections at the Temple. Several things of interest were set up. Of these we noted *Pentstemon Halli*, with blue flowers; *Androsace Chumbyensis*, a rose self, very free and beautiful; *Erysimum asperum*, yellow; *Myosotidium nobile*; *Polygonum baldschuanicum*, with white flowers; the golden *Edwardsia grandiflora*; and the pretty *Dianthus inodorus nanus*, a miniature *D. alpinus*, so to speak. *Tupa salicifolia*, with orange and scarlet flowers, was also good.

Messrs. George Jackman and Son, Woking, who are working up good hardy plants, had many notable flowers in showy groups. Of these: *Incarvillea Delavayi* was fine; *Oenothera speciosa rosea* very fine; excellent pans of the alpine Phloxes, in beautiful variety and in splendid bloom; the ever-welcome *Onosma taurica*, *Cheiranthus alpinus*, *Daphne Cneorum majus*, *Saxifraga macnabiana*, *Primula sikkimensis*, *Orchis foliosa*; many beautiful hardy *Cypripediums*, *Androsace sarmentosa*, *Cyclamen repandum*, with lovely red flowers, and the new *Salvia*, which promises to be a fine and distinct plant, the blue flowers being of good size and freely produced on stems 3 feet or so high. Lilies, Globe Flowers, and other plants were also freely shown in this group.

Messrs. T. S. Ware, Limited, Feltham, also had a fine lot of things, including hosts of the *Primula Sieboldi* in variety, very showy, and pleasingly set up in large pans. The *Eremuri* were also very fine, and, towering up above all else, showed to great advantage. A group of *Primula obconica kermesiana* with rose flowers was excellent, as also the Tree Pæonies, Alpine Phloxes, Irises in great variety, among which the Cushion Irises were to be seen in plenty. Then, too, we noted *Primula involucrata* (white) and quite a display of *Silene acaulis grandiflora*, one of the most miniature of miniature alpine.

Messrs. Smith, Worcester, showed goodly batches of hardy cut flowers, in which Irises, Pæonies, Phloxes, Trollius, Lupins, *Lathyrus Sibthorpi*, Tree Pæonies, *Thalictrums*, Poppies, and such plants were well represented.

Massive collections of Tulips came from Ireland, from Messrs. Hogg and Robertson, and from Mr. Baylор Hartland, Cork. The flowers were very fine, and well represented this grand group of spring flowers, as also the suitability of the soil and climate of Ireland for their cultivation.

Messrs. Paul and Sons, Old Nurseries, Cheshunt, sent a good collection of small alpine in boxes, the alpine Poppies, alpine Phloxes, *Saxifragas*, *Arnebia*, *Gerbera jamesoniana*, *Heucheras*, and such like being shown.

From Knutsford, Cheshire, the Misses Hopkins sent a bank of small hardy things, mostly alpine in character, with Primroses, Daisies, and such things tastefully arranged on moss.

Messrs. Carter and Co., Holborn, also had a small arrangement of alpine in rockwork, the vernal Gentian, the alpine Phloxes, double Arabis, *Saxifragas*, Candytufts, and the pretty *Hutchinsia alpina* being among those shown on this occasion.

Mr. P. Purnell, Streatham Hill, set up a rather extensive lot of *Sempervivums*, *Sedums*, and *Saxifragas*, for the most part, however, of the more plentiful kinds. The webbed forms were not numerous, while the curious *S. spinosum* was well to the front in good rosettes.

Mr. W. J. Caparne, Rohans, Guernsey, sent a most interesting collection of Irises, early flowering and good garden plants. We hope to make further reference to these beautiful varieties.

TREES AND SHRUBS.

These were, for the most part, displayed outside, and formed certainly one of the most interesting features of the show. Messrs. Fisher, Son and Sibray, Handsworth Nurseries, Sheffield, had a beautiful display, the trees and shrubs boldly grouped, and making a mass of colouring pleasant to see, besides affording an opportunity of noting the finest of the more recent acquisitions. We particularly noticed a series of Maples, rich in leaf colouring; groups of *Weigela Eva Rathke*, the finest of the whole genus; the new and splendid tree form of *Ivy amurensis*; *Quercus concordia*, the Golden-leaved Oak; *Lilac Alphonse Lavalée*, the Golden-leaved *Cornus aurea*, the new *Dracana Australasia*, with fine foliage, and suitable for summer bedding of a bold type; *Picea pungens glauca pendula*, the weeping form of this well-known Fir, a distinct and good addition; an excellent variegated Elm, *Ulmus argentea*, the curious *Rubus australis*, and *Acer rubrifolium magnificum*. Of the many beautiful things shown by this firm none was so rich in leaf colouring as this. The whole exhibit was in every way excellent and interesting.

Messrs. Cheal and Sons, Crawley, Sussex, showed a very interesting and important group, comprising many shrubs in full flower, a bright and attractive display. The Lilacs, *Laburnum Vossi*, golden-leaved variety of *Spiraea opulifolia*, *Wistarias* in pots, *Weigelas*, and such things as *Choisya ternata*, the Mexican Orange flower, were relieved by those curiously clipped shrubs that one associates with old English gardens of the more formal patterns. As shown they possess a certain quaint charm, and make a break from the usual grouping.

Mr. John Russell, of Richmond, showed a large group of shrubs. All were well displayed, and comprised an interesting variety of things. We noticed especially *Aralia Maximowiczii*, the Lilacs, Maples in full beauty, and represented by a choice selection of the best kinds, *Wistarias* in pots, and under the tree and shrub groups Mr. Russell showed a collection of miniature Japanese trees, which seem to have become so popular during the past two or three years.

Mr. Thomas Cripps, Tunbridge Wells, showed a very interesting group of Japanese Maples, which seem to be special favourites for exhibition purposes. The leaf colouring, when a mass of the best varieties is shown, is remarkably varied, from green to the deepest crimson.

Messrs. Smith and Co., of Worcester, had an excellent display of trees and shrubs, including the pretty *Berberis dulcis nana*, *Ivies* in pots, *Canariensis* and others, and Maples.

Messrs. Fromow, Chiswick, showed many groups, Maples especially, and the plants were excellently grown and good in colour.

Messrs. James Veitch and Sons had a beautiful group of Bamboos in pots, such as the big-leaved *Bambusa palmata*, the lovely *Phyllostachys nigra*, *heterocycla*, *viridi glaucescens*, *Arundinaria nitida*, *anceps*, *Falconeri*, *Hindsi*, and others.

Messrs. Cutbush and Sons, Highgate, showed shrubs clipped into various shapes. We believe this well-known firm was the first to exhibit clipped trees at the Temple show.

Mr. John Waterer, Bagshot Nurseries, showed a brilliant group of hardy *Rhododendrons* and Maples, with *Ledum palustre* and other good shrubs.

THE GARDEN.

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[JUNE 1, 1901.

FLORAL GARGOYLES.

HERE, in America, is the home of the grotesque as well as of the picturesque. Aristocracy and democracy jostle each other, and aristocracy gets the worst of it.

We had a bad boiler explosion here lately, and among the emblems sent to a victim's funeral was a floral clock set for the hour of the explosion! A theatrical treasurer's club sent a floral pass 'Admit one.' Let us hope it was recognised. Gates ajar, open windows with plaster doves thereon, and tawdry wire frames showing through pillows of red and yellow flowers, all tend to vulgarise funerals, and to inspire the words 'no flowers.'

"When the city council is inaugurated, then are the florists busy. Gigantic keys, Indian clubs, desks, chairs, all are on hand, all of natural flowers distorted to suit perverted tastes. We need a renaissance in art to strike the florists here, and strike them hard."—C. MACQUARIE, Chicago.

Happily, such evidences of grossly perverted taste as are above described could not be tolerated in England, though we view with much concern the growing use of artificial flowers under glass Mushrooms in our country graveyards. We feel sure that many good and kindly people who wish to honour their dead by the placing of some more or less permanent token of affection on their graves hardly know what they are doing when they buy these articles. They only perceive that the thing they acquire has (to the uneducated eye) a certain prettiness, and does not cost much, either of money or trouble. They forget that while they are thus satisfying their own kindly impulses they are destroying the beauty of the churchyard, and bringing into it an element of vulgar tawdriness that is wholly in opposition to what should prevail in the consecrated space of ground where we lay our well-loved dead to rest.

These glass-covered things are of foreign origin, and those who know the horror of French churchyards, with their quantities of cheap bazaar articles made of beads, and erections like dolls' houses, filled with various personal articles, cannot, without deep concern, see in our beautiful churchyards what look like the forerunners of all this endless train of frivolity and even desecration. We have seen quite commonly in these churchyards an iron wire frame like a hat-rack fixed on graves for

the convenience of hanging up these miscellaneous objects.

To all of us the churchyard is a sacred place, and while it is our duty to make it as beautiful as we may, it is equally our duty to preserve its dignity, and to suffer nothing that shall mar its unity and repose; above all, not to permit the introduction of things glaringly vulgar.

A Yew tree or Cypress well and carefully planted, a white Rose bush on a child's grave, a wreath or cross of natural flowers, made with loving care and placed on a dear grave on some anniversary or festival of the church, and with equal exactitude removed when withered, these are the ornaments that can offend no one, while the tree or bush will grow on to the permanent beautifying of the sacred place.

The glare and flash and glitter of these horrible glasses in some times of sunlight make it almost impossible to walk with any comfort in churchyards and cemeteries, while anyone but the most obtuse cannot but see how this insidiously encroaching foreign custom destroys the reposeful beauty of our country graveyards. Let us hope that the wide-spread protest that is now being made may be the means of checking this thoughtless practice before it has led to more serious evils.

MAY FLOWERS.

THE Ides of May are past, and the weather, for the last few days at least, has been fine and sunny, but, leaving out the stone heaps, on which there are a few showy alpine, such as Aubrietias and dwarf Phloxes, the garden at Edge is almost entirely flowerless. It is the same every year, and as far as the long borders filled with hardy herbaceous plants are concerned, May is the worst month from the end of February to the end of October. Those poets whose poetry taught us from our childhood to believe that May was flowery could not have had hardy herbaceous gardens, or they would have been aware that May flowers in them are a fraud. I write this in the hope that some one will contradict me, and tell me of some hardy plants which will flower in May on a cold soil in Cheshire, and I shall feel very grateful to them. My borders present little but a long array of green, and some of it very untidy green. May is the autumn of spring bulbs and flowers, and the dense fringe of sere leaves of Crocuses and Squills, Dog-tooth Violets and Daffodils, to say nothing of the tall ugly leaves of *Colchicum speciosum*, are anything but ornamental. The one May border flower by which I have always set great store and of which I have a very good collection is *Trollius*, but this year, owing to

the long drought of April and the hot sun and east wind of May, *Trollius* flowers are poor.

There are Wallflowers, it is true, but their cultivation does not belong to the borders of which I am speaking. Tulips also are ornamental enough where they do well, but here they flower once and break up into small bulbs below flowering size. *Doronicum Harpur Crewe* is showy enough, but April is its best month, and in May it has degenerated into lanky untidiness. The same may be said of the *Calthas*, beautiful as they are and worthy of a good place in a king's garden—perhaps their ancient Latin name of "*Regius Flos*," modernised into "*King Cups*," is intended to denote this. The scarlet *Anemone hortensis* is over, and if anyone will tell me how to make *A. coronaria* flourish in this soil I will thank him.

Then how about *Gentianella*? It is constantly renewed here by fine lumps presented or purchased, and every practical gardener who sees how it fails here suggests some never-failing plan for making it flower well; but in any case it is only a question of whether it dies out soon or late. Now and then some clump becomes beautifully flowery, and I think my difficulty about it is overcome, and hasten to examine the conditions, and try to imitate them exactly with other clumps, but somehow these attempted imitations hardly ever succeed, as the plant finds too much or too little of something. *Columbines* are grown here in abundance, but do not begin to flower till the last week in May. The large bushes of *Iberis sempervirens* and its varieties and congeners are delightful flowers. I see them in friends' gardens and villa gardens about London, but the *Iberises* must be on raised banks or stonework here or they soon get stalky and brown in the leaves.

I have said nothing about shrubs, and it must be owned that the double Cherries, the double Crabs and Pears, and dozens of others are now beautiful at Kew and in many other warm and well drained gardens. Here the damp subsoil prevents the shrubs from ripening wood, so if they are not killed by winter they make more leaves than flowers in spring. There are a few exceptions, notably *Berberis Darwinii* and *B. stenophylla*, which never flowered better than they are doing now, though it surprised me to find how *B. Darwinii* escaped the late spring frosts unharmed.

In excepting the stone heaps and raised banks from my accusations against May as a false pretender, I ought also to have excepted peat beds, of which I have several. Peat is an expensive luxury here, being fetched from far and subject to a heavy royalty, but as far as it goes it certainly is a great relief to the garden, and these few beds have been full of flowers since February and continue so. *Azalea mollis* is quite hardy there and already out. Large bunches of *Trillium grandiflorum*, *Uvularia grandiflora*, *Primula Sieboldii*, *Epimediums*

many of them more beautiful with leaves than with flowers; Ledums just beginning. Many other things which in well drained soils may do all over the garden, but here they want special soil and special drainage. At the back of one of these peat beds, against a south wall, is a large bush of *Choisya ternata*, 10 feet high and as much across, standing well out from the wall; in some years the late frosts ruin the flowering, but it is now a mass of flower. Perhaps the last few lines seem to make my grumble against the month seem unreasonable, but those who could see the long rows of green in my garden without being able to suggest a remedy will agree with me that May is about the worst month in the year for hardy flowers.

Edge Hull, Malpas.

C. W. Dod.

THE FRUIT GARDEN.

ERRORS IN GRAPE GROWING.

IT is strange that so many common errors occur in Grape growing, when the number of books and weekly information on this subject to be obtained at such a low cost are taken into consideration. I suppose it is the old tale. Growers do not read or will not see their own errors, although many are prone to point out the faults committed by others.

A common error is that of disbudding. It is much too common a custom to leave two and sometimes three growths on a single spur. If the spurs are a reasonable distance apart one shoot from each is quite sufficient to ensure a full fruit crop. There are times when the retention of a second shoot is an advantage, for instance, when an accident has happened to the shoot on an adjoining spur, causing a prospective gap in the Vine. In that case an extra growth from one spur is quite justified, not only as a means of increasing the number of bunches, but for appearance sake in filling an otherwise bare space with foliage. The error of retaining two shoots where but room for one exists is that of overcrowding the foliage. No fruit tree that I know depends more upon the perfect maturation of its wood and buds for the production of satisfactory results than the Vine. If the leaves have not ample space for full development by exposure to light and air how can they be expected to fulfil their natural function of developing the buds from which emanates the future fruit crop?

Another error quite common, perhaps more so than the former or any other, is that of manipulating the lateral and sublateral growths. The orthodox method is to pinch the shoot above the first leaf and to remove the second, or sublateral growth. Of course there are exceptions to this rule; where abundant space is available more lateral growth may be retained with advantage. Instead of going over the Vines when growth is being made fast from vigorous Vines every other day, it is much too common a practice to allow all to grow together for ten days or even a fortnight, or perhaps longer. By that time many of the more vigorous shoots will be several feet long. Even then, instead of removing the surplus shoots gradually, the whole is cleared at one cutting. Such an error cannot fail to have an adverse influence upon the welfare of the Vines so treated. The injury may not be immediately apparent, but cannot fail to be present somehow.

Many an example of shanking of the berries, which has puzzled sorely the mind of the cultivator, might be traced to such drastic treatment as that previously alluded to if the cultivator would but see the folly of such a practice. For the welfare of the Vines it is better to be able to hold the surplus shoots in one hand while removing them with the other rather than requiring the aid of a wheelbarrow to carry off the shoots and leaves.

Neglect in tying down the shoots early is another error that may be the source of mishap. Too often one sees the point of the shoots hard pressed against

the glass for several days before they are released by timely attention in tying them to the wires. When the bunches and leaves are pressing close to the glass they run a great risk of injury from frost by night and bright sun by day shining upon them before the condensed moisture has evaporated.

Good management of this detail consists in never allowing any portion of the shoots to press against the glass. With stiff and strong-growing varieties like *Alicante*, for example, daily attention is necessary to train, little by little, these stout shoots into the space allotted for them. Some cultivators will find a ready excuse for neglect in this phase of Grape culture—that of having the wires too near to the glass. Seventeen inches is not too much space to allow for strong-growing varieties. If the wires really are too close to the glass, the error is easily remedied by swinging the rods below the wires the extra distance required.

The removal of surplus bunches is too often the cause of another error. An experienced cultivator will relieve the tax upon the Vines early by reducing the number of bunches before they blossom, while those who are guilty of this error do not thin them until the berries are the size of Marrow-fat Peas. What an unnecessary strain upon the Vines such wrong treatment entails.

In some instances the Vines at one end of a vinery may not "set" so regularly or so well as those at the opposite end will do. In other cases varieties are not easy to manage in their fertilisation periods; the weather, too, may be quite unfavourable for some varieties like *Muscat of Alexandria*, for example. All things considered, it is not wise to recommend the absolute thinning of the bunches down to a bare crop before the flowering stage has passed. Directly, however, it can be seen that a good "set" has been obtained of clean, healthy-looking berries, remove all surplus bunches without delay.

In thinning the berries some thin too freely, while others do not remove sufficient. Perfection in thinning can only be attained by practice on the one hand and a knowledge on the spot of how certain varieties swell their berries as compared with the same sorts in other localities. There is no disputing but this is a fact, as all the difference imaginable does exist in such varieties as *Madresfield Court* and *Alicante* for example.

The error complained of in thinning is that of allowing the berries to arrive almost if not quite at the stoning stage before they are thinned. Not only is a greater strain imposed on the Vines than is necessary, but the "bloom" upon the berries is sadly marred by the thinning process, no matter how carefully it is done. The "bloom" upon the berries is present directly they are formed, although some may look upon it as a creation obtained when the ripening process is in hand. Many more errors in culture might easily be pointed out, but I fear I have already occupied much space. One other I must briefly allude to as it is of so much importance—that of allowing red spider to obtain such a strong hold upon the leaves before remedial measures are taken to check its progress.

Where vineries are utilised for plant growing, also for the production of Strawberries and the forcing of French Beans in the spring, the wonder is if any single vinery can be said to be free from red spider. This insidious pest is, perhaps, more difficult to stamp out than any other, except it be mealy bug. When once a vinery is infested with red spider, a yearly recurrence may be expected. As a rule it is the leaves nearest to the main stem that are first infected, perhaps by the plants below being infested with this pest. In a few days it is surprising how fast other leaves will be affected also if some means are not taken to arrest its progress. This is the error I complain of—allowing it to spread without attempting some step. There must always be a time when but two or three leaves at the most are infected, then is the time to arrest its progress. If the cultivator waits for a week or so "to see how it goes on," as he too often remarks, the chances are he will find twenty leaves covered with it. He then washes the leaves with soft soap or some other nostrum, entailing much labour and little satisfaction; whereas if he had sprinkled dry

sulphur over the two or three leaves at once the check would have been more easily effected, and certainly much better for the Vines, as it is not possible to colour black Grapes of any kind well when the foliage is damaged with the ravages of red spider.

E. MOLYNEUX.

RECENT PLANT PORTRAITS.

THE fourth and fifth parts of the sixteenth volume of "*Lindenia*," published as a double number on May 1, contain portraits of the following Orchids:—

Cattleya Mossii var. *Mme. Lucien Linden*.—A most beautiful pure white flower with a fringed lip delicately shaped, with rosy purple and orange markings.

Cypripedium albertianum var. *rotundiflorum*.—A very brightly coloured and beautiful variety of this family, which will be much sought after and greatly admired by all lovers of this class of Orchids.

Celeogyne barbata.—A pure white flower with a curious and most uncommon bearded lip of a deep brown colour.

Phalænopsis amabilis, var. *rimestadiana*.—A fine double plate of a large handsome variety, showing an entire spray of pure white flowers of the largest size with light yellow markings in the centre.

Cypripedium insigne var. *Chantini* sub. var. *Lindeni*.—A very beautiful variety with yellow and white flowers.

Eriopsis rutidobulbon.—A fine spike of medium sized orange flowers streaked with yellow and a pure white lip spotted with brown.

Sobralia Veitchii.—This is a most delicately beautiful hybrid of this handsome family raised by crossing *S. xantholeuca* with *S. macrantha*. It was raised by the firm whose name it bears and flowered in their nursery in 1894.

W. E. GUMBLETON.

LEWISIA TWEEDII.

WE can as yet say little about this new plant, except that it worthily excites the admiration of the gardening world. The bloom is of a tender and wonderful colouring, a rainbow flower of pale rose and yellow, the size of a small Tulip; the leathery leaves are something like those of an *Auricula*. The reproduction is from a photograph of a plant in Mr. G. F. Wilson's garden near Weybridge.

NOTES OF THE WEEK.

***Solanum pensile*.**—Although not so showy as the strong-growing *S. Wendlandii*, this species is well worth including in a collection of warm greenhouse climbers. It is a native of Brazil, a quick grower, and of good constitution. It makes long slender branches, clothed with entire ovate leaves 3 inches long, terminated with large spreading panicles of flowers. The branches of the inflorescence bend so as to appear at right angles with the main stem, and as the flowers are borne on the upper side only of the branch, not all round, they look very effective. Individually the flowers are three-quarters of an inch long, purple in colour, with a white mark at the base of the inner side of each petal and a central mass of golden stamens. It succeeds in either a stove or warm greenhouse, the latter for preference. It may be planted in a border of peat and loam, and have the main stems trained to the roof wires, allowing the lateral branches to hang loosely. An annual spurring back is necessary, the work being done after the flowers are over in June. Upon no account should any of the branches be shortened during late autumn or winter, as if this is done no flowers will be borne. Anyone giving it a trial will find it a very interesting and ornamental plant, quite distinct from the usual run of climbers grown. Anyone wishing to see it in flower may do so by visiting the Mexican house at Kew.—W. D.

Rosa Ecæ.—I have just been spending a few days at Bournemouth, and, of course, I paid a visit to the garden of my old friend Canon Swayne. Everything was very remindful of him. The flowers, the trees, were just as he left them a few weeks ago, but there was a great void nevertheless, and it all seemed very expressive of this

"Oh! for the touch of a vanished hand
And the sound of a voice that is still."

But there was one strange exception to the feeling that seemed to prevail in the place. A Rose, about which Canon Swayne had spoken to me several times, but which, as far as I know, had never done much in his lifetime, and at any rate I had never once seen in blossom before, was radiant with unusual beauty, and no doubt it is so at the present time. I refer to *Rosa Ecæ*, which was a great favourite in its owner's esteem. It has been growing for some few years hard by the main entrance to the house, and had a position of honour; no one could miss seeing it that frequented the place. This Rose last Monday quite glittered in the sunshine to which it was exposed. Its solitary golden blossoms studded a large space on the wall and arrested the bystander at once. But I confess to having been almost vexed with what I saw. Why could it not have behaved in this way before? Why should it have every symptom of exuberant delight when the whole garden seemed to miss the presence of a master hand? There was a strange incongruity, at least so it seemed to me, in the behaviour of a very beautiful flower. I felt as though I must speak to Canon Swayne on the subject. I am certain he would have been interested in it. I met Mr. Prichard, of the Riverslea Nursery, Christchurch, at the Temple Show of the Royal Horticultural Society. He knows a great deal about the Rose, and he spoke of it as a plant of extreme rarity and of great excellence also. Few are more acquainted with Canon Swayne's garden than he is, and he seemed quite alive to the strange behaviour of the Rose. I believe *Rosa Ecæ* comes from Afghanistan, but whatever may be its native habitat I am sure that it had the *imprimatur* of a very great lover of flowers, and it will always remind me in my own garden and elsewhere of a valued friend who first called my attention to it.—HENRY EWEANK.

Flowers at the Glasgow Exhibition.—Messrs. Dobbie and Co., Rothesay and Orpington, have been making a bright display of cut flowers at the Glasgow Exhibition, chief of which has been the rich and varied display of Pansies and Violas, for which the firm is noted. Cut blooms of Sweet Peas have also been less numerous staged, and lately Tulips in the best and brightest kinds have lent an added beauty to their unique exhibit. The firm intend to continue showing flowers in season till the exhibition closes in November.

Canadian Fruit at the Glasgow Exhibition.—Those interested in hardy fruits who may visit the Glasgow International Exhibition at Kelvinside should not fail to inspect the Canadian section, where a representative collection of Apples of about 200 dishes, drawn from various provinces of Canada and from Nova Scotia, is staged. It is intended to renew the exhibits from time to time until the close of the exhibition, the fruit shown at present being of last year's crop and preserved by cold storage. After three weeks on the tables the Apples were found, with the exception of a few dishes, in excellent condition, though a fresh lot was to replace these at the end of the month. The gentleman in charge is most kind in giving information, but, of course, our northern climate is so cold that many of the best Apples of Canada fail with us altogether. Of such may be named King of Tompkin's County and Northern Spy, well displayed at Glasgow. English varieties that are included are grand examples of Golden Russet, Blenheim Orange, and Nonpareil, the latter from Nova Scotia, and there considered one of the best of Apples. A new variety, called Cranberry Red, is also shown in good form. In addition to these, Ben Davis, Canada Red, Spitzenberg, Grime's Golden, Greening (which succeeds best in British

Columbia), and Baldwin, are considered first-rate sorts, and are all well represented at Glasgow. Varieties that are amenable to cold storage treatment are no doubt of first importance in securing such fine fruit at this time of year, but a more important matter still is that of perfect maturation previous to gathering the fruit. It is probable that only some districts in Scotland can approach Canada in this respect, though it must be conceded the Scot as a rule errs in harvesting his late sorts too soon in autumn. In addition to Apples, the Canadians exhibit a grand collection of bottled fruits in great variety.—B.

Lily show and conference.—The Royal Horticultural Society will hold an exhibition of Lilies, at the Chiswick Garden, on Tuesday and Wednesday, July 16 and 17. The gates will open at 2 p.m. on Tuesday, closing at 8 p.m., and at 11 a.m. on Wednesday, closing at 6 p.m. A large silver medal, kindly presented to the society by the Williams' memorial trustees, will be awarded to the amateur exhibiting the best collection of Lilies. Other medals and awards will be made by the council as they shall think fit. On Tuesday, July 16, a conference on Lilies will also take place in the garden. The chair will be taken at 2 p.m., or as soon after as possible, by Mr. H. J. Elwes, F.R.S., V.M.H., who will deliver an opening address on Lilies discovered or brought into cultivation since the issue of his monograph on the subject. The following have also been asked, and for the most part have already kindly consented, to contribute papers or notes to the conference:—Mr. J. G. Baker, F.R.S., V.M.H., Kew; Dr. Bonavia, Worthing, Sussex; Mr. Luther Burbank, California; Mr. F. W. Burbidge, M.A., V.M.H., Dublin; Mr. W. Goldring, Kew; Dr. Henry, China; Mr. H. Jones, Whyteleaf, Surrey; Herr Ernst Krelage, Haarlem, Holland; Mr. J. Carrington Ley, East Farleigh, Kent; Mr. George Massee, Kew; Mr. G. L. Patey, Newton Abbot, Devon; Mr. Carl Purdy, California; Captain Savile Reid, Yalding, Kent; Mr. R. Wallace, Colchester; Mr. G. F. Wilson, F.R.S., V.M.H., Weybridge Heath, Surrey; Mr. George Yeld, M.A., York. Anyone interested in Lilies and willing to contribute a short paper or note is requested to communicate with the secretary, Royal Horticultural Society's office, 117, Victoria Street, Westminster, S.W. It is hoped that everyone having Lilies in bloom at the time will be kind enough to send them for exhibition at Chiswick. The fruit and floral committees will meet at Chiswick on the first day at 11 a.m. All plants &c., sent for certificate must therefore be ready by 10.30 a.m. at latest.

Kew Guild Dinner.—A most enjoyable evening was spent at the Holborn Restaurant on the evening of May 21, when about 150 past and present Kewites met under the presidency of Sir William Thiselton-Dyer, K.C.M.G., &c. Many notable horticulturists who have spent some portion of their lives at Kew were present. The

speeches were commendably brief, and the evening's enjoyment was added to by music. The toast of "The Present Kewites" was responded to by Mr. Jackson, A.L.S., and that of "The Past Kewites" by Mr. F. W. Burbidge, M.A., F.L.S. Several lady gardeners were present, some of whom are still employed at Kew.

St. James's Park.—Very effective is a set of beds near the Horse Guards Parade planted with mixed Pansies and *Devoniensis* in two beds, *Pyrethrums* in two others, and Solomon's Seal in centre beds, the whole presenting a charming appearance.—Quo.

Veronica hulkeana, 3 feet high and more across, with a mass of red *Heuchera* in front, is delicious.—E. H. W., *Nice, France*.

Thornton Heath Horticultural Society.—The first summer show of this society will be held in the grounds adjoining Thornton House, London Road (kindly lent by E. G. Bates, Esq., Oak Lodge), on Wednesday, July 10.



LEWISIA TWEEDII.

Many special prizes are offered, as well as a handsome challenge cup, given by Thomas Cook, Esq., Elm Lodge, to be awarded for the greatest number of points won by amateurs residing in the district.

Saxifraga pallida.—Closely allied to *S. mertensiana* and *S. virginensis*, this Himalayan species is more interesting than showy. From a rosette of petioled ovate leaves, which lie flat on the ground, the flower stem is produced, bearing from one to four moderate-sized white flowers, each petal having yellow spots at the base. The whole plant is not more than a few inches high, and is generally covered with glandular hairs.—W. I.

Messrs. Kelway and Son write to say that the medal awarded to them by the council of the Royal Horticultural Society, on the occasion of the Temple Show, for Tree Pæonies, was a silver-gilt, not a silver Banksian medal, as previously reported.

The Temple show is monotonous.—"J. R. D." writes: "Could not the Horticultural Society hold their show a month earlier, or better, later, as year after year exactly the same flowers are in exactly the same places and shown by exactly the same people? One could find them blindfold."

Iris tingitana, Lonicera hildebrandiana, and Oncocylus Iris.—We regret that the locality was not given at the end of some highly interesting notes in our issue for May 18 on the above plants from the Rev. H. Ewbank. We should have stated that they were from near Ryde, Isle of Wight.

Two new Mertensias.—The Virginian Cowslip (*M. pulmonarioides*) is deservedly a favourite and familiar plant in gardens. The species under notice, however, differ greatly from that plant in habit and general appearance. *M. primuloides* is a low-growing, tufted perennial, scarcely exceeding 6 inches in height, inhabiting the Western Himalayan Mountains at an elevation of 15,000 feet. Unlike many of the plants hailing from the higher regions of the Himalaya, this is of easy cultivation, and has stood without injury in the open border all the winter. The leaves, which are small and elliptic in shape, have a peculiar greyish appearance at first, which, however, is lost with age. They are surmounted by numerous racemes of lovely reddish purple flowers in the way of a Forget-me-not. A valuable feature of this plant is that it remains in full beauty for a long time without in any way getting ragged. It is easily increased by division, and promises to ripen plenty of seed. *M. echioides* is another new introduction from the mountains of Kashmir and Western Tibet, similar in habit and size to the above, with soft, hairy, spatulate radical and amplexical stem leaves. The stems are rather more leafy than in *M. primuloides*, while the blue flowers, which are borne in dense racemes, are more campanulate in shape. This is hardly the typical form of this species, which has narrow, erect, corolla lobes. In this plant they are broader and more spreading.—W. IRVING.

Flowers at the Bath and West Show.—The small flower show, which is always one of the most attractive features of the Bath and West Show, was visited by large numbers at Croydon, and was carried on on much the same lines as usual. Messrs. Kelway and Son, of Langport, made a speciality of Tree Pæonies, and among the more striking varieties shown were Lord Roberts, General French, and Mrs. Bancroft. A very pretty exhibit was set up by Mr. Butcher, of Croydon, who showed Hydrangeas, Roses, and Lilies, well set off by Acer Negundo and other foliage plants. Conspicuous among the Begonias, Streptocarpus, and Anthuriums, which constituted the main features of the exhibit of Messrs. John Laing and Sons, of Forest Hill, was an example of *Medinilla magnifica*, a fine stove-flowering plant not very often seen nowadays. Messrs. Cooling and Sons, of Bath, showed some splendid Clematises, single and double, among them the beautiful Duchess of Edinburgh. In another part of the show the same firm had a choice collection of alpine plants. At the top of the tent Messrs. Cutbush had a most effective display, which was much admired. It was made up chiefly of Carnations (among them the new and brilliant Herbert J. Cutbush), Picotees, Lilies, Rose Crimson Rambler (always in evidence at this show), Heaths, *Cilla eliottiana*, *Saxifraga pyramidalis*, and a host of Ferns and fine-foliaged plants. Hardy plants were shown in excellent condition and variety by Mr. J. R. Box, of West Wickham and Croydon, conspicuous among them being *Heuchera sanguinea*, Globe flowers, Irises, and the variegated Strawberry (*Fragaria vesca*). He also had a nice collection of Calceolarias. Messrs. William Paul and Sons, of Waltham Cross, had a very large exhibit, chiefly Roses, including fine plants of Marie Baumann, Baroness Rothschild, the new Polyantha Rose Leuchtstern, and the new climber Wallflower. Mr. W. J. Godfrey, of Exmouth, had some very showy Cannas, and Mr. F. Hooper, of Widcombe Hill, Bath, Pansies both in "collars" and in baskets. The arrangement of all the exhibits was

tasteful in the extreme; indeed, the effect arrived at by those responsible for this part of the Bath and West exhibition is the gathering together of a small and varied collection of choice plants staged in the most effective manner.

Flowers in Regent's Park.—Long borders of *Primula cortusoides* in variety produce a telling effect with their deep rosy flowers. Pansies, always a speciality in this park, were noted in excellent variety and fine condition, of sorts introduced to commerce by Messrs. Dobbie and Co. a firm which has done much to popularise this charming flower in the south. What a bold aspect is produced by golden-flowered *Doronicums*. It was pleasant to see a border of mixed *Auriculas*. That popular Tulip, Grand Maitre, is flowering magnificently in many beds, whilst a welcome relief is afforded from the necessarily trimly-kept beds by hardy flowers effectively rising from the unkept grass—beautiful bits of wild gardening in the green sward.—Quo.

Parrot Tulips.—When looking through the grounds of Gunnersbury Park recently I was much struck with the sizes and beauty of some Parrot Tulips. They consisted of such well-known varieties as Admiral de Constantinople (red), Cafe Brun (brown and red), Lutea (yellow), Perfecta (yellow, spotted with red), and Mark Graaf (brown, veined with yellow). On my asking Mr. George Reynolds if he attributed such fine results to any special treatment, he astonished me by stating that so far from the bulbs receiving any special attention, and so far from their having been imported bulbs from Holland, they were actually the offspring of those which bloomed the previous year; that they were lifted about a fortnight after they had gone out of bloom, were laid out on the path in the full glare of the sun, and when they were quite dry were put away for planting last autumn. This seemed to be a very rough and ready treatment, but it did not in any way affect the produce of fine blooms, and only a small percentage failed to flower. The fact is the physiology of the Tulip is a peculiar one, for at the time Mr. Reynolds had lifted his bulbs, the young bulb—for the old one which had produced flower stem and blossom had exhausted itself in the acts—had begun its independent life. It is there fairly alone in the vegetable world, separated from the fibres, now old, that have fed it and from the stem through which the foliage has done so much towards its development. In consequence no real weakening of power in the bulbs resulted from the rough drying process, and when gathered up and stored it is surely and silently preparing itself for the time when in its turn it will produce fibre, foliage, and flower, and so perform its life's work. It has been well and truthfully said, "There is no suspended animation in the Tulip bulb."—R. D.

Lathyrus pubescens.—It is hoped that we shall hear in due time how this Pea behaves at Inveresk when planted out. I am indebted to Mr. Arnott for a cutting sent in 1898, and half a dozen seeds sent later, all of which grew. The plant, however, has not yet proved hardy here. The seedlings, when planted out in May, go on growing with many branches till October, always looking as if they ought to flower, but making no flower buds. Then winter kills them down, and they do not break again. A plant in a Lily border, covered with a tall frame and unheated, planted last spring (1900), has grown well, being very bushy, and now 6 feet or 7 feet high, having upwards of a hundred heads of flowers and buds, ranging from five to ten in the bunch. It shows a strong tendency to mildew, which I restrain by liquid valtha, but at present I see little prospect of making it hardy. *L. magellanicus* has lived out through winter in one instance against a south wall without being killed down, and is now flowering, but can hardly be called a good blue colour. The base of this plant also is mildew, which is fatal to most of the plants at the end of summer. I am afraid it will hardly be a great acquisition to the list of hardy plants.—C. W. Dod.

Cistus formosus.—This is quite hardy here, and its beauty is so striking that it is worthy of more general cultivation.—F. A. STURGE, *Coed Efa, near Wrexham.*

Solanum jasminoides.—It may encourage those of your readers who do not live in the southern counties to grow this lovely plant if I say that with a slight protection of straw it has passed through the winter unharmed, and is now growing strong.—F. A. STURGE, *Coed Efa, near Wrexham.*

Rhododendron indicum var. Hexe.—The variable *R. indicum* has produced a large number of pretty, fine-flowered varieties, the majority of which stand in high favour with the gardener, but of all the varieties, though many have larger flowers, none are more ornamental than this. The flowers are of the hose-in-hose type, similar in shape to those of anemum, but many times larger, and of a beautiful deep rose colour. It is of easy cultivation, rooting readily from cuttings of half-ripe wood in July, and quickly making compact little bushes, which each spring can be depended on to be covered with flowers. It does well as a pot plant, but is seen at its best planted in a border in a cool house, and used as a carpet under taller plants. In sheltered positions and in gardens in the south-west counties it can be grown out of doors, but in the majority of places indoor culture is essential.—W. D.

Rhododendron Dalhousiæ.—A group of this pretty Himalayan *Rhododendron* is at the present time flowering freely in the Himalayan house at Kew. In size of flowers it comes nearest to the rare *R. Nuttallii*, and, like that species, is of straggling growth. In descriptions of it, as seen in a wild state, it is said to be a sub-epiphyte, growing in decayed vegetable matter, between the branches of trees, and also on the trunks of fallen trees. Under cultivation, however, it succeeds under similar treatment to other species, and much may be done towards improving its habit by tying in the shoots as soon as they are firm enough to bend, this bending causing dormant buds to break the following spring. The leaves are 6 inches long and barely 2 inches wide; the flowers are tubular, 4 inches to 5 inches long and 3 inches across the mouth. They are greenish yellow in colour, slightly fragrant, and borne in small, loose trusses. It may be grown in pots, but succeeds better if planted in a well-drained border of sandy peat. Like the majority of Himalayan *Rhododendrons*, it requires protection in winter, but should never have much fire heat. One of the principal items in the culture of cool-house *Rhododendrons* is to keep them as cool as possible in winter, and well damp both plants and house in the early morning and late evening during hot weather in summer. The species under notice has been used by the hybridist, one of the most beautiful and useful greenhouse hybrids, *i.e.*, Countess of Haddington, having originated through crossing this species with *formosum*.—W. DALLIMORE.

Leucoerimum montanum.—A very interesting and pretty plant, closely allied to the Mexican genus *Weldenia*. It is the only member of the genus, and a stemless perennial herb, forming a rosette of six or eight arching, narrow leaves, 4 inches to 6 inches long, flat or somewhat folded towards the base. The pure white, very fragrant flowers are borne singly on stems shorter than the leaves, as many as eight being produced on a single plant. It inhabits the low valleys from North-eastern California to Colorado, growing in both moist alkaline or dry sandy soil. A pan of several plants, which have been kept in a cold frame during winter, has been flowering for some time. It has not yet been tried outside.—W. L., *Kew.*

Iberis spathulata, also known under the name of *I. carnosa*, and figured in Sweet's "British Flower Garden" as far back as 1838, is still a scarce plant, and seldom seen in cultivation. Very dwarf in habit, like *I. saxatilis*, with branching decumbent purple stems and moderate sized corymbs of purple or white flowers, it is worth a place amongst the most select rock plants. It has been described as an annual, but it is readily increased by cuttings, which strike freely in a sandy compost.—I.

Flowers in Kensington Gardens.—At the west end of the flower walk blue and white *Scilla campanulata* now make a brave show. How splendidly, too, the Lilacs are flowering.

Daphne hybrida.—This is a desirable Daphne with dark foliage, the apices of which surround neat whorls of white, slightly rose-tinted blooms, with the additional merit of opening long in succession, from April to August. The shrub is of free growth, after the manner of the original *Daphne indica*, but is denser. At the same time, the striking whiteness of the latter and much of its fragrance is wanting. Taking the plant as a whole, it is probable that *Daphne indica rubra* was the male parent of it. When it is known how commonly the Spurge Laurel (*Daphne Laureola*) is met with, one cannot but wonder why this hybrid form is not more generally grown. True, the former is a desirable shade-loving plant, and its numerous blooms, though green, are very fragrant. *Daphne hybrida* would be a pleasing front row plant for the shrubbery, and suitable, where compact, lowly shrubs are intermixed with herbaceous plants, for giving better winter effect. *Daphne hybrida* is an old subject, referred to by Sweet in his "Flower Garden" many years ago.—WILLIAM EARLEY.

Vitality of Geranium cuttings.—On November 13 cuttings of Geraniums were posted from a town in the South of England. They reached Jamaica on November 28, but owing to a misapprehension as to the contents of the parcel it was detained at the post office, and was not delivered till December 15, thirty-two days after posting. There were eleven cuttings of King of Denmark, four of Raspail Improved, one of Mrs. Bartleman, which seemed worth trying. From these I ultimately got one plant of King of Denmark and three plants of Raspail Improved, which were put out in the garden on February 20. The wonderful power of resistance of these cuttings was due to their being taken from well-ripened hard wood, and to being cut long, so that at the end of their journey they could be recut into living wood. As many as four or five joints had to be taken off in this case before we got down to sound wood.—W. J., *Port Royal Mountains, Jamaica.*

Wellington as a dessert Apple in spring.—I am aware there is nothing new in describing the old but good Wellington Apple as a dessert kind; indeed, I have seen it staged in competitions at autumn Chrysanthemum shows in dessert classes, but at that season it was most certainly out of place, as its value for dessert is in the late spring. In many gardens this variety colours well, and if gathered late and kept cool the fruits do not shrivel, and it does well for dessert in April, when other fruits are past. It may be objected to on the ground that there are real dessert kinds that may be had at the season named. Many do not keep so well as the Wellington, and where a large quantity of the last-named are grown it is easy to select the best fruits for the table. The flavour at the season named is much liked by many, as, though it would not be liked when such kinds as Cox's Orange is in season, in April or May the flavour is not so much considered.—G. W.

Parisian Tulip Merveilleuse.—Last autumn we received bulbs of this Tulip from Messrs. Vilmorin-Andrieux and Co., of Paris, for trial. It is undoubtedly one of the most beautiful of Tulips, of perfect form, and of the soft yellow-scarlet known as flame colour. In its earlier stages, when the flower is only half expanded, the outside has a tender bloom-like appearance that much enhances the colour of the flower. It has the great merit of refinement, combined with brilliancy, being extremely bright in colour without the taint of garishness.

Early Cabbage Sutton's April and Flower of Spring.—Of the newer varieties of Spring Cabbage April is well named, as from seed sown the third week in July we were able to cut the end of March and freely during April. This is a great advance on the types of Cabbage grown in private gardens during the last twenty years; the large, loose, coarse kinds for spring cutting find little flavour. The introduction of Ellam's Dwarf Early has helped this race, as, though small, there is no loss; indeed, the reverse, as more plants can be grown, and of better quality. Another point often overlooked in the case of these

early small Cabbages is their freedom from bolting or running. This is a great gain, as with a mild winter and a great demand for spring vegetables Kale runs early to seed and the Spring Cabbages are most valuable. Both the above are distinct types, and the last-named is remarkable for an absence of outer leaves, it being a compact cone-shaped heart, and I do not know of any variety more trustworthy or more delicate in flavour. They are just the size for a private garden, and their hardiness and earliness make them more valuable.—G. W. S.

New Winter and Spring Kales.—At this time of year provision must be made for the next season's supply. Few vegetables are more appreciated than the Borecoles or Kales, and late sowings are most valuable for a late spring supply. Another point often overlooked is the hardiness and good qualities of the Scotch varieties. I am aware of late years that some of the sprouting kinds, such as the Asparagus, have been somewhat diseased, but the hardy green curled have not been affected, and of recent years some excellent introductions have been made, the most valuable being the Arctic Green and Arctic Purple Kales, a type of Scotch beautifully curled and remarkably hardy and prolific also. The new green kind noted above is a splendid late spring vegetable, and, having a compact growth close to the soil, is less affected by severe weather. Both this and the Purple are excellent when cooked, but being large need plenty of water and room when cooking. For these excellent additions to our winter and spring supply we are indebted to the Messrs. Sutton of Reading.—G. WYTHES.

THE FLOWER GARDEN. FRAGRANT WALL- FLOWERS.

SURELY there is no plant in the whole round of horticultural favourites which commands more universal admiration than the Wallflower. Equally prized by peer and peasant, as much or more at home in the garden of the cottager as in that of the great house, its blossoms, whether borne on the sturdy little pyramidal first season bushes, or on the maturer specimens of shrub-like dimensions often seen adorning rustic homes or ancient ruins, seem to convey to the wearied-of-winter garden lover the first real message of spring.

It is not for its display of blossoms in the spring-time that we alone love the Wallflower. Have not the perfect rows or circles of green rosettes formed by its leaves beautified an otherwise bare earth all through the dreary winter months?

'Tis true we occasionally have the Wallflower maligned and accused of lack of hardiness, and we also occasionally see these same bright green rosettes assume another colour after King Frost and his friend Mr. Nor' Easter have paid one of their unsettling visits, a colour which may be prolonged or intensified; but, after all, there is no doubt that this change of colour and consequent accusation of tenderness is not so much the fault of the plant as of the cultivator.

Good plants well prepared are to be thoroughly relied upon, even in the worst seasons. A glance around some scores of gardens even this year has proved the truth of this assertion, as it is invariably the weaklings that have succumbed, while their stronger brethren have survived.

Two primary causes may be generally credited with the production of weaklings, viz., late seed sowing and bad cultivation. Either of these will suffice to bring about the state of things which has caused the Wallflower to be thoughtlessly condemned, but when, as sometimes happens, the two are combined, then small wonder that failure and disgust follow.

Many market growers of my acquaintance sow their Wallflowers as early as the end of April, and the practice has much to recommend it where the finer cultural details have too often to be neglected owing to the pressure of work. In private gardens,

or the garden of the amateur, where it is reasonable to suppose that sufficient time is available at all seasons to give the plants the attention they require, the middle of May will be found an ideal time to sow the seeds.

An early June sowing and good cultivation will, in favourable seasons, yield plants which leave very little to be desired; but the proverbial uncertainty of our English climate should warn the cautious cultivator against depending too much upon assistance in helping forward a late sowing; therefore May is recommended as the best of all times in which to commit Wallflower seeds to the earth.

A good workable soil, not too liberally enriched by recent manuring, should be chosen for the seed bed, and drills drawn an inch deep with a hoe, or made by laying the rake handle in the place where the rows are desired and treading it in. This forms a really serviceable drill, and is easily made where the seed bed is, as it always should be, under 4 feet wide.

Thin the seedlings before undue crowding ensues, and if the seed has been sown thinly, the thinnings may be inserted in other rows 6 inches apart and 3 inches between the plants. The same distance should be maintained between the plants in the original rows, until in a month's time, or even three weeks in favourable weather, every other plant may be carefully removed and transplanted with a clear space of 6 inches all ways; so that the whole of the plants will be in rows 6 inches apart, with 6 inches between each plant. Here they may remain, with an occasional hoeing to keep down weeds, and a watering given in the evening when needed, until on the summer occupants of the flower-beds completing their blooming period in October or November the plants may be allowed to take their places as bedding plants, at a distance of 9 inches apart all ways, with the certainty of a good display of fragrant and beautiful blossoms in April.

When placing the plants in the flower-beds in autumn a few of the strongest and best-shaped specimens may be reserved for growing in pots. These, if placed singly in 4½-inch or three together in 6-inch pots, and kept during winter in a cold frame, pit, or vinery at rest, will furnish very useful flowers for cutting or plants for conservatory decoration some time before the occupants of the beds commence to bloom, if they are afforded gentle heat in the early spring. A vinery starting furnishes a splendid home for these early Wallflowers, as the conditions and gradual increase of temperature meet their requirements exactly.

E. J. CASTLE

AMONG THE DAFFODILS AT FAR FOREST.

ON a recent Saturday, at the kind invitation of the Rev. G. F. Eyre, F.R.H.S., about forty-five members and friends of the Horticultural Society journeyed to Far Forest to inspect the lovely collection of Daffodils and other spring flowers at the Vicarage. Although the weather was stormy it did not prevent the party from thoroughly enjoying themselves. The house, which faces south, is surrounded by Cherry orchards, and in the distance stretches the Wyre Forest. The Cherry trees were in full bloom, wreathed in their clusters of pure white blossom. No fruit tree seems to surpass the Cherry in giving such a bountiful mass of bloom, and at Far Forest there are hundreds of them, of all sorts and sizes. Under the Cherry trees are grouped the Daffodils, on either side of the path leading to the church, and here they were at their best. A description of a few of those which attracted the most attention will perhaps interest our readers.

In the trumpet section, Victoria is one of the finest grown at Far Forest. It has large erect flowers with a lovely cream perianth, and rich yellow trumpet of great substance and frilled at the mouth. It was only introduced by Messrs. Barr and Sons in 1897. Then comes Emperor, a huge flower held well up on good stout stalks. The perianth is a deep primrose, and the trumpet a rich deep yellow. No variety can be more

recommended to the average amateur than this, and the price is moderate. Two nice groups of J. M. B. Camm made one hesitate as to whether this variety ought not to have been placed at the head of the list. It has a lovely white perianth, and a trumpet of very soft, pale yellow. In symmetry of form this far surpasses Emperor, but the price is 2s. 6d. to 3s. per bulb. Next came Empress, a large flower with white perianth and a deep yellow trumpet. Then, in order of merit, came Grandee, a fine flower with a large lemon-coloured trumpet and white perianth; Horsfieldi, an early blooming variety with yellow trumpet and white perianth, which was, however, past its best. But the daintiest of all the trumpet section which Mr. Eyre grows is Johnstoni Queen of Spain. This was found by Mr. Peter Barr in Spain, and is a favourite with everyone. It is absolutely distinct from any other variety in cultivation. The graceful flower is clear yellow in colour, the perianth is charmingly reflexed, and the trumpet, which is straight, is very elegantly formed.

Turning from the trumpet section, which is called Magni-Coronati, we come to the Médico-Coronati, or star-shaped Daffodils. Of these Mr. Eyre has a fine collection, and a few of those which were most admired are picked out. First came Sir Watkin, the giant of the chalice-cupped Daffodils. This has a rich sulphur perianth, and a yellow cup slightly tinged with orange. It is a strong grower, very showy, and, moreover, is moderate in price. Then followed Barri conspicuus, the favourite in this section, and a most refined flower. This has a yellow perianth and a short cup edged with orange-scarlet. Another very much-admired flower was Duchess of Westminster. This variety is very distinct—the perianth large and pure white, and the cup a canary yellow. Others which were admired were Rugilobus, Sensation, Flora Wilson, John Bain, Nelsoni major, and Maurice Vilmorin.

The visitors next admired a huge bed containing 20,000 Hyacinths. Most of the spikes were superb, and the fragrance was overpowering. In front of the house were some lovely beds of Wallflowers—the double varieties were specially good, and testified to the excellence of Mr. Robert Sydenham's strain.

The pergola, which is planted with Roses, Vines, Clematis, Ampelopsis, and cordon Pears, will be a great feature in the garden when the plants have had time to grow. Its length is about 150 feet by 9 feet wide, and it is constructed with Oak poles obtained from the Forest. Beneath the pergola are planted masses of Polyanthus and Auriculas. The Polyanthus were exceptionally fine.

In the conservatory attached to the house a Maréchal Niel Rose was in bloom; also some very fine fragrant Carnations, the strain being Sutton's Vanguard. Roses outdoors are well represented, and there should be a lovely display during the summer months. One interesting variety was specially noted—Electra—a cross between William Allen Richardson and Rosa Polyantha. This year Mr. Eyre is growing forty-three different varieties of Sweet Peas. At the Midland Daffodil show, held on April 25 and 26 at Edgbaston, Mr. Eyre took first prize for six varieties of chalice-cupped Daffodils, beating several noted growers, and fifth for trumpet Daffodils.

After a thorough inspection of the grounds had been made, Mr. Eyre very kindly entertained the visitors to tea in the schoolroom. On behalf of the society, Mr. Arthur Goodwin proposed a hearty vote of thanks to Mr. Eyre for the very pleasant and instructive afternoon which they had spent, and for his generous hospitality. This was seconded by Mr. J. T. Cowderoy, and carried amidst applause.

Mr. Eyre, in responding, said that he was delighted to welcome the members of a society which, he thought, was doing a great amount of good and useful work in the district, and congratulated the members upon having a committee who were working together in such a harmonious and successful way.

FOREIGN NOTES.

NOTES FROM FRANCE.

It is most instructive to note that, though the winters are colder in many parts of France than they are here, and that consequently French gardens, as a rule, are without some of the beautiful trees and shrubs of a somewhat tender nature which adorn British gardens, there are a few plants which live there better than they do in our warmer but moister climate. Foremost among these may be noted the beautiful *Musa japonica*, or, as it was originally called, M. Basjoo. In M. Sallier's nurseries at Neuilly, just outside Paris, one may see beds of this useful hardy species remaining out all the year round with simply a covering of litter during the winter. Large clumps of the same species may also be seen at Franconville, the property of M. le duc de Massa, as well as in the grounds of the Château du Piple, at Boissy St. Léger, where single stems planted on the lawns only two years ago have developed into clumps with six to eight stems each, giving the place a distinctly tropical appearance. In these gardens, however, M. Bréanté, who has taken the trouble of covering his plants over during the last two winters, has now the satisfaction of having some uncommonly strong stems full of promise for the production of robust foliage during the next season. The vigour of this decorative plant may be imagined when it is known that all the plants now distributed in French gardens (and they are numerous) originated from M. Sallier's nurseries, where they were raised from one or two plants which had been given to his predecessors (Messrs. Thibaut and Keteleer) by Messrs. J. Veitch and Sons, who introduced it into Europe some thirty years ago. In a permanent position in France the plant gains in strength every successive year, and attains large dimensions, as much as 8 feet to 10 feet during the season.

BOUGAINVILLEA SANDERIANA.

It is refreshing to see on the market place this lovely plant in full beauty by the end of April or beginning of May. Although at the start its merits were much contested by our neighbours, who could not see any difference from the old *B. glabra*, its free flowering qualities were duly appreciated, and the market growers in and around Paris were not slow in giving it their special attention, with the result that at the Madeleine and other flower markets this welcome addition to the general stock of decorative flowering plants may be seen in all its glory from the end of April to the middle of June, the plants varying from a few inches only to several feet in height.

HYDRANGEA HORTENSIS MONSTRUOSA

is a form of the common *H. hortensis*, producing several immense heads of flowers on comparatively small plants. Those seen at M. Truffaut, Versailles, and at M. L. Paillet, Sceaux, although grown in 6-inch pots only, bore several heads about 15 inches across; the flower or pips were of a good normal size, and of a particularly pale rosy colour.

CAMELLIAS AT FERRIERES.

Whatever may be said concerning the decline of Camellia culture in general, it is evident that the Rose of Japan is still in great favour with Baron Alphonse de Rothschild, who, in his splendid property at Ferrières, has devoted the whole of the conservatory, formerly planted with large Palms, to the culture of the Camellia. The plantation of the new collection, which comprises over fifty of the most distinct sorts, reflects the greatest credit on the gardener, M. Schwarz, who had before him no ordinary undertaking, for the trees with which the Camellia house is planted range from 6 feet or 7 feet to 22 feet in height, all wonderfully well branched. Considering their recent transplantation from their native place, Lac Maggiore, they are models of good culture and treatment. It is only two years since they were moved (and several of them each required a large railway truck), yet they have this year produced an abun-

dant crop of their fine handsome flowers, varying in colour from the purest white to the darkest crimson and to the brightest scarlet. Many of the varieties are of Italian origin and very little known amongst us, still it is with great pleasure that one finds *C. matthottiana* and its variety *alba*, *Donkelaarii*, *Storeyii*, *Carbonari*, and the old favourites *alba plena* and *imbricata*.

GOUVILLE,

the country seat of M. le Comte Adrien de Germiny, situate in the midst of the magnificent woods surrounding Rouen, the ancient capital of the Normands, is now more interesting than ever. For many years past this has been acknowledged the finest place in France for exotic plants of all sorts, but principally for Orchids, which are there in their element, and tended with special care and attention. The result is that one may see there a whole series of plants of reputed short duration, but which at Gouville grow and flower year after year as the most ordinary ones do elsewhere. For instance, it is with legitimate pride that the proprietor calls one's attention to a batch of two dozen or so of the lovely *Cattleya citrina*, another of *Masdevallia towarensis* in splendid plants; again, a grand lot of *Odontoglossum vexillarium rubellum*, all of which have been on the place and flourishing for twenty years and more. Perhaps one of the most interesting plants in the houses is an immense *Cattleya bowringiana* growing in a square teakwood basket measuring 2 feet in all directions. This plant has over 200 bulbs, most of them with leaves, and produced this season twenty-six grand spikes of flowers. It is one of the finest varieties known in cultivation, and has been grown to its present size from a small imported plant bought when *C. bowringiana* was first introduced. The *Cattleya citrina* mentioned above are in splendid health and well flowered. The same remarks apply also to *Masdevallia Veitchii*, *Lindeni*, *harryana*, *sanguinea*, the charming little *M. Davisii*, all of which for nearly a quarter of a century have adorned the houses at Gouville, where *Phalenopsis* have also been favourite plants ever since this eminent amateur formed his collection. These are doing well in the houses, which contain fine specimens of *Oncidium Edwardsii*, *macranthum*, *undulatum*, and *marshallianum*, such as we seldom see. It is the same with *Vandas* of the tricolor and *suavis* sections, and also *V. cœrulea*, which there grows without any trouble. The houses are disposed in a compact group, and all communicate with each other. Contrary to what is usually seen on the continent, each house is devoted to a class of plants, and it is pleasant to see at the end of April and beginning of May a splendid lot of *Gloxinias* filling one house and another of magnificent *Amaryllis* which originally came from Chelsea. In the New Holland house are grand specimens of several species of *Chorozemas*, *Boronia*s, *Acacias*, and *Azalea indica*, the latter 5 feet to 6 feet across, and in the best condition possible, as well as unique specimens of *Rhododendrons Veitchii*, *Gibsoni*, and *Countess of Haddington* literally loaded with their lovely flowers. Among other interesting plants are the grand varieties of *Anthurium scherzerianum*, which have been gathered together at great expense; a collection of *Nepenthes* well furnished with pitchers, and numerous choice *Caladiums*. These latter plants, like the *Gloxinias*, are required all the year round, and on that account a certain quantity are started in succession, and naturally rested the same, so that seeing these plants just going to rest in April and May appears very strange, but these are the same bulbs which will again adorn the houses at Gouville during January, February, and March next.

(G. SCHNEIDER.)

EDITORS' TABLE.

Mrs. Bayldon sends from Dawlish

A BOX OF SPRING FLOWERS, showing by their wonderful vigour their appreciation of the strong red soil of the district. They comprise *Alyssum saxatile*, *Primula cortusoides*,

Hen and Chickens Saxifrage (*S. granulata* fl.-pl.), and single yellow Wallflowers, all of surprising strength and size. Some of the Wallflower blooms are 2½ inches diameter, and the Saxifrage 1½ inches. From the same lady comes a remarkable example of fasciation or confluent blooms in the Tulip, a number of stems being joined together near the ground. Mrs. Bayldon writes: "Out of a small group of less than twenty of these Tulips four have fourteen flowers amongst them. The one I send is the least perfect, but it has the shortest stalk. The others were perfect blooms, but the point of junction was much lower. A star Daffodil had as many as ten flowers. In this case the stem was nearly an inch wide. The blooms were in three sets of three, and one alone. A bloom of Johnstons Queen of Spain has two perfect flowers on short stalks rising from a perfect stem." This freak of fasciation seems to be frequent this year. There is no accounting for it or why it comes more one year than another. Asparagus shows such examples nearly every year, and *Lilium auratum* frequently.

TULIP FLOWERS FROM CORK.

Mr. Baylor Hartland, Cork, Ireland, sends us a splendid gathering of Tulips. *Vitellina*, *Picotee*, *Golden Crown*, *Didieri*, *Golden Flake*, the beautiful *Gesneriana lutea*, *G. spathulata*, and other forms of Gesner's Tulips were in the collection. A lovely kind is *Ixioides*, with soft yellow flowers with a dark blotch at the base of each segment; *Columbus*, bright yellow, splashed with red; *The Fawn*, creamy white, with faint suffusion of fawn and pink, a charming flower; *Shandon Bells*, a large, slender flower, white, with bright rose suffusion; *Rose Pompon*, cream, splashed with rose, and many others, a most interesting and important gathering.

From Gloucestershire Mr. Elwes sends blooms of the beautiful

TULIPA SAXATILIS,

a native of Crete. The centre of the flower for rather more than a third of the length of the petal is bright yellow, the remainder being a pale mauve. From the same garden come some very well coloured blue and purple *Primroses* of the Wilson strain.

PRUNUS DIVARICATA CANADENSIS.

Messrs. Kelway and Sons, Langport, Somerset, send flowers of this beautiful *Phlox*, of a soft lilac shade of colour and very free. It is one of the most charming things in the garden at the present time.

FLOWERS FROM A SUBURBAN GARDEN.

Mr. R. J. G. Read, of Ealing, writes: "A few flowers for the editors' table from a suburban garden. The Lilac is especially fine this year, the individual clusters of the Charles X. being almost too large, for they weigh the branches down and spoil the symmetry of the bush. The dark variety is from a bush I have had for many years, but it has never flowered before, and now it is out it is much admired for its unusual colour. I have another late kind which is just coming into bloom. The two sprays of Broom are the first blooms from seeds of *Cytisus andreana*. One shows the red colour much darker than the other, and this is much more apparent in the bush than the individual flower. They harmonise so well in a bed of mixed Wallflowers that they are not noticed at first sight. This Broom is very easily grown, and is a splendid shrub for the villa garden, but it is very seldom seen about here."

[A very interesting gathering of flowers from a suburban garden.—Eds.]

LATE APPLES.

Mr. H. C. Baker, Oaklands, Almondsbury, Gloucester, writes: "I am sending you a few varieties of Apples which I consider a very fair sample for so late in the season—*Calville Rouge*, *Wellington*, and *Blenheim Orange* grown on standards in orchard, the remainder on bush trees in the garden.' The fruits received are excellent. *Calville Rouge* was of good flavour, firm, rich in colour, and in every way of value at this time. *Kentish Fill-*

basket, *Wellington*, *Ribston*, and *Lewis's Incomparable* were excellent. We liked *Wellington* and *Ribston Pippin* as well as any, the fruits being juicy and pleasantly acid, while *Ribston* preserved its characteristic flavour. We were very pleased to receive a box of Apples with almost the natural flavour preserved after being so many months in the store.

A NEW AUBRIETIA.

We receive from Messrs. B. Ruys, of the Moerheim Nurseries, Dedemsvaart, Holland, some blooms of an extremely pretty *Aubrietia* raised by them. The flowers are large, but not coarse, and a more free outline than is usual gives the plant a distinct and pleasing character. The colour is a clear fresh rosy lilac, rather pale than deep, and all the better for it. It has the charm of distinct beauty, refinement, and modesty; it has no violence of colour, and yet could not be passed by without admiration. We shall have something to say shortly on this question of colour in the raising and selection of new varieties of this and other plants.

FLOWERS FROM A SURREY GARDEN.

A correspondent sends flowers of plants "grown in a very light sandy, gravelly soil in a Fir wood by a Surrey common, half an hour from London by rail," and they comprise the beautiful double white-flowered Cherry, sprays of *Spiræa confusa*, and the Spiderwort (*Tradescantia virginica*).

Mr. W. E. Gumbleton sends an interesting series of flowers:—

ANEMONE FANNINI, a giant of its family, a native of Natal. It grows from 2 feet to 3 feet high. The flowers are a pale sulphur-white, with a rather pleasant

scent, several in a head on a thick downy stem. The leaves are rough and large, divided into seven lobes sharply serrated, and downy above and below. They are so bold of form and build that they have somewhat the aspect of small leaves of *Gunnera*.

INCARVILLEA SP., NAMED GRANDIFLORA,

but the correctness of this name is open to question. Introduced by Farges. The flowers are borne singly on the stem, thus differing from *I. Delavayi*, which bears many on a stem. They are 2½ inches in diameter, of a strong magenta-crimson, with cream-white markings leading to orange in the throat. A splendid garden plant.

ARCTOTIS SP.,

a splendid flower of strongest orange-colour nearly 4 inches across. The ray petals are marked with

chocolate at their base. The leaf has somewhat the size and tothing of a small Oak leaf 2½ inches long, and is carried on a long stalk. Both leaf and stalk are grey and downy. This *Arctotis* or *Gazania* was found in Namaqualand by Mr. Ayres.

Mr. Gumbleton also sends double yellow *Papaver nudicaule*, double *Alyssum saxatile*, the fine Tulip *Merveilleuse*, which is described elsewhere in the present issue, and other good things.

CLIANTHUS PUNICEUS.

We have just received from Mrs. Bayldon some grandly bloomed sprays of *Clianthus puniceus*, the Glory Pea or Parrot's-bill of New Zealand, showing how well this grand shrub, with its masses of



WATERER'S DOUBLE CHERRY FORCED INTO BLOOM.

(From a photograph taken at a March show in the Drill Hall.)

showy scarlet beak-like flowers, succeeds in the soft climate and rich soil of that favoured land.

WATERER'S DOUBLE CHERRY.

THE spring meetings of the Royal Horticultural Society have well demonstrated the value of shrubs for forcing, and amongst the great variety recently shown by several nurserymen Waterer's Double Cherry (*Prunus Pseudocerasus Watereri*) was one of the most beautiful. Its charming double blossoms are very plentifully produced, and even small plants when carefully treated become masses of delicate colour at flowering time.

The numerous Peaches, Cherries, Plums,

Apples, &c., are most useful, in fact indispensable for the decoration of the greenhouse in spring time, and particularly so as new and improved varieties are being annually exhibited. Chiefly owing to the introduction of these, and the adaptation of them for forcing, the conservatory and greenhouse in spring are perhaps more beautiful than at any other season of the year. In order to induce forced shrubs to flower well it is most necessary that they shall have made good growth, and also that this growth shall have been well ripened. Gentle forcing and an occasional season of rest are also important items and necessary aids to their successful treatment. T.

THE ROSE GARDEN.

THINNING OUT THE NEW GROWTHS OF ROSES.

WITH varieties that yield large flowers, sometimes termed show Roses, an important item in their culture is the early reduction of shoots, and this should be no longer delayed. When it is remembered what a single eye or bud will produce if this said bud is engrafted upon a foster root, it must be apparent that in order to obtain really fine flowers the number of the growths which a plant naturally yields must be considerably curtailed. Where good practical pruning has been

carried out the thinning now will be an easy matter, but if the growths of last year and previous years are numerous then there is a complete thicket of new shoots, each one hindering its neighbour to properly develop, and providing a happy hiding-place for maggots. Observe a yearling or maiden plant, what wonderful foliage it will make. As the leaves are the lungs of a plant, the finer the foliage is so relatively must be the flower. I am aware that large, coarse foliage does not always mean large flowers, but generally speaking it is so. A well-trained specimen pot plant will demonstrate the need of allowing a free circulation of air among the foliage, and also the advantage to be gained by providing each leaflet with its share of sunlight. Some varieties naturally grow erect, and their growths almost touch each other. Now the proper way is to cut some of these growths clean out or peg them slightly outward. If a Rose bush be in a healthy condition and properly fed, there is no reason why it should not support its twenty or thirty growths, as a specimen pot plant will do, but it must be trained accordingly.

Instead, however, of these fine specimens abounding outdoors, we find a number of plants crowded together, each one hard pruned every year, producing certainly fine Roses, but as a plant it is a failure.

Many of our fine Hybrid Perpetuals, such as Mrs. John Laing, Ulrich Brunner, &c., would with cultural care grow into quite large specimens, and growth can be assisted now by thinning out all growths from the centre of the bush or the head of the standard, and each season when pruning cut back the shoots to an eye pointing outward, and still further where the hard growths are close together insert into the ground a galvanised iron

peg with a loop in the top, and gently draw the growth away from its neighbour and secure it to the peg.

Many of the strong-growing Teas and Hybrid Teas, China or Monthly Roses, Polyanthas, &c., will be benefited by an application of this method. The strong sucker-like growths springing up now from beneath the earth are in most cases best removed at once, but it requires some knowledge to identify those that are likely to make the new growths for next season, but the least coarse are generally the best. PHILOMEL.

SEMI-DOUBLE-FLOWERED ROSES UPON STANDARDS.

WITH the advent of so many glorious decorative varieties a new era of popularity seems opening up for the standard Rose, and doubtless the stiff, dumpy growers will be seen less often in this form, and I imagine the substitution will not be regretted.

At no time is the true decorative value of the standard semi-double Rose seen to better advantage than when grown in a pot in a cool house. I have in mind just now Mme. Pernet Ducher, one of the loveliest kinds among the Hybrid Teas. A three-year-old specimen is now a charming picture, the fine stiff petals of the open flower and the pretty buds surrounding it last in this condition some considerable time when abundance of air and shading from bright sunshine are afforded. This Rose is almost equal in growth to its near relative, Gustave Regis, which has also been good this spring under glass. Perhaps there is no rose that produces a finer elongated bud. Some this year were fully 2 inches in length, and they are not



A WALK OF SUNFLOWERS AT MAIDEN-BRADLEY.

thick at the base and pointed at the top after the manner of most Roses, but the bud is almost of uniform thickness, giving it a unique appearance. I believe in the near future every garden will have its standard of such glorious semi-double Roses as Grüss an Teplitz, Mme. Laurette Messimy, Killarney, Bardou Job, Queen Mab, Enchantress, &c., as it now possesses its Gloire de Dijon or La France, then may we hope to see fine, well-proportioned heads—some drooping, others spreading, but all entirely free from artificiality.

Whether in pots or grown outdoors this type of Rose pays for good culture, and, though their blossoms are thin, by providing them with good stamina they are much more beautiful and lasting; in fact, so great is the change that one hardly recognises them when compared to poorly grown plants. New wood should be encouraged as much as possible, and the knife freely used in thinning the centre of the heads, but the previous years' growths, where hard, may be retained any length, and the longer the better. PHILOMEL.

A SUNFLOWER WALK.

THE illustration of the Sunflower walk, so interesting last year in the gardens of Maiden Bradley, the seat of the Duke of Somerset, shows the importance of planting one family well. The colouring of this walk is not so powerful as one would suppose, and a succession is maintained by growing the annual kinds and following on with the many beautiful perennial varieties. We need say no more about this illustration—it tells its own tale.

SHORT STUDIES ON PLANT LIFE.—XI.

CLIMBING PALMS.

WHEN we think of a Date Palm, or any of the tall straight-stemmed Palms at Kew, one does not associate such with climbing properties; but if the visitor go to the Museum, house No. 1, he will see a Palm stem twined round below the gallery, being some 300 feet in length, but only of the thickness of a walking stick.

These sort of Palms may be called "scramblers" rather than "climbers," and resemble our Blackberry in habit rather than the woody lianes of tropical forests. To aid them, they possess hooked, spiny processes derived from the epidermis, just as Brambles have hooked thorns made of corky tissue.

The stem is constructed just like a stick of Asparagus, or rather the more woody stem of the Butcher's Broom (*Ruscus aculeatus*), our only indigenous monocotyledon possessing a woody stem.

Unlike all other British woody stems, they cannot increase in diameter by an annual layer, as they do not possess the active layer called "cambium;" but as a substitute they utilise the "pericycle," a layer *outside* the wood. It is that which supplies us with so many useful fibres for textile purposes, as of Hemp and Flax.

The Palm stems rely upon this layer to increase their dimensions till it attains its complete size.

The stems of these climbing Palms are well known to the public as "canes," several species supplying the so-called Rattans, used for cane chairs and many other purposes.

In the Himalayas they are used for the suspension bridges across ravines. Sir J. D. Hooker thus describes them:—"Two parallel canes, on the same horizontal plane, are stretched across the stream; from these others hang in loops, and along the loops are laid one or two Bamboo stems for flooring. The traveller grasps one of the canes in either hand and walks along the Bamboos." The stems of *Calamus scipionum*,

being a good deal thicker than ordinary canes, form the Malacca canes of commerce, used as walking sticks. They are really from Singapore, being produced in Sumatra.

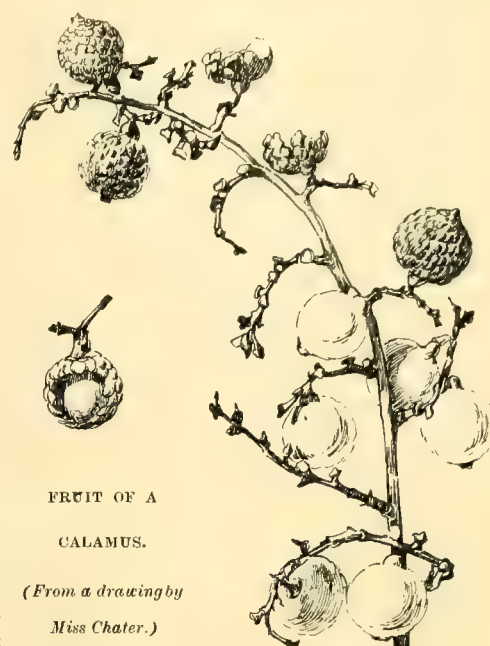
With regard to the flowers and fruit, they are mostly unisexual, of course ternary, the males having six monadelphous stamens and the females a three-celled ovary, which becomes one-celled in fruit with a single seed. The fruit is peculiar in being covered with what gives the appearance of polished inverted scales (well seen in the Sago Palm fruit). They are also indicated in the accompanying illustration of a species of *Calamus*. They are not really separate scales as of a Fir-cone; but seem to arise from folds in the surface of the pericarp, and only presenting the appearance of scales. It is not clear what function they fulfil in the economy of the plant.

Sagus Rumphii is the Sago Palm. The pith of this tree is full of starch before fruiting. It is then cut down. The soft pith is grated with water and the starch collected. When moist it is rolled into the tiny ball-like grains, as purchased. It is a native of the Malay Archipelago, and of the same tribe of Palms as *Calamus* or the Canes. G. HENSLOW.

THE INDOOR GARDEN.

JAPANESE MAPLES.

FOR grace and elegance, combined in many instances with richly-tinted foliage, the various Japanese Maples stand almost alone, and on this account they have made considerable headway in popularity within the last few years, particularly for the embellishment of the greenhouse or conservatory during the spring months. It is, of course, necessary to keep them in pots for this purpose, but these delicately-cut *Acers* are not particularly vigorous rooting, hence they may be maintained in good health for years when grown in pots. Among the numerous forms now in cultivation two species are represented, viz., *Acer palmatum* and *A. japonicum*, both of which we are told by Professor Sargent form small trees in the forests of Japan rarely reaching a height of 50 feet. It is, however, the varieties that concern us the most, and these are so variable that in some cases at least it is difficult to assign them under their respective species. So great is the demand for these Maples that some of our nurserymen propagate them extensively by grafting on to the typical *Acer palmatum*, which is obtained either by layering or occasionally by imported seed. This by no means represents the only source of supply, as enormous quantities are sent here from Japan during the winter months. With the roots tightly bound in Moss and clay, and packed in such a manner that there is a free circulation of air among the branches, these Maples travel well, and also sell readily at the London auction rooms. While many of these imported plants are grafted as we graft them, that is to say, one variety on a stock, there are, on the other hand, frequent departures therefrom, and plants built up of several distinct forms are often met with. The fondness of the Japanese for anything quaint or curious is shown among other things in the way they grow some of these Maples, as in the catalogue of a nursery firm in Japan now before me, apart from a list of thirty-seven varieties, there is also quoted grafted Maple, with five to seven varieties on a single stem, and grafted *Megane* Maple, in which two stems are twisted and grown together in the form of a figure 8 or pair of spectacles, and five to seven kinds grafted on it. This latter I see is much dearer than that immediately preceding. Charming as these Maples are under glass they are not vigorous enough (especially the delicate tinted kinds) to hold their own out of doors, unless in particularly favoured districts of this country. Omitting the typical form the variety *sanguineum*



FRUIT OF A

CALAMUS.

(From a drawing by
Miss Chater.)

appears to be the most robust, and it forms a delightful shrub, brilliant in tint throughout the summer, and even more vivid in the autumn. H. P.

BEGONIA FUCHSIOIDES AND ITS USES.

THIS old favourite may be grown in a variety of ways for the adornment of cool structures, and when well grown it is one of the most beautiful subjects imaginable. The species is quick in growth, and bears in great profusion myriads of bright scarlet flowers in panicles at the ends of pendulous branches during the summer months. Cuttings of the young wood inserted in light sandy soil in spring and plunged in a mild propagating bed will root quickly, and if attention be paid to potting off at once, and keeping them growing freely in a genial temperature, afterwards giving a shift onwards as required, they will make good specimens for flowering next autumn. Place a neat stake against the leading shoot and keep the leader to it until it attains a foot or so in height, when it may be stopped to induce side branches to grow. Afterwards select the topmost shoot for a leader. This method should be adopted where specimens are required for flowering in pots. For clothing pillars or rafters of the greenhouse or conservatory this *Begonia* is unsurpassed, and I have known it to reach 12 feet in height in such positions. In raising plants for this purpose the leading shoot should be retained, and the plant grown on freely until sufficiently strong for planting in its permanent position. Either a large pot or tub may be used, or a restricted border will answer admirably. Efficient drainage must be afforded, as this *Begonia* (like its congeners) is fine rooted, and any stagnation about its roots will end in failure. A compost of equal parts fibrous loam, flaky leaf-soil, and decomposed horse or cow manure, with a small quantity of mortar rubbish or charcoal to keep it sweet and porous, will suit well for the permanent planting. When in active growth the plants will be much benefited by weekly applications of liquid manure, and an occasional sprinkling of Clay's Fertiliser by way of a change. As a basket plant for suspending from the roof or rafters of the conservatory this *Begonia* is well adapted. For this purpose young healthy plants in 3-inch pots are best, and these should be disposed round the sides as the work of lining with moss and filling up with soil proceeds, finishing off at the top with

one large plant. A few pieces of Pilea or Lycopodium dibbled into the moss will help to give the whole a bright and pretty finish. When established these baskets require abundance of water, and the best way to give it is to immerse them carefully into a tub of water as often as required.

H. T. MARTIN.

OUR COTTAGE GARDEN.

WHAT is the ideal garden? There are so many, and every one of them different. Mr. Zangwill says the "only garden he enjoys is a dream garden," and some one else, a poet of course, tells us that—

"Folded eyes see brighter colours
Than the open ever do."

The ideal garden of many is summed up in three words—"My Lady's Garden." The very phrase is a picture, and conjures up the stately pleasure, "with terraces and noble flights of shallow steps, like those at Haddon Hall. We see the spreading trees, the garden fair of Roses where the sundial is, and smooth-swept lawns, where my lady may trail her silken skirts. But there is another kind of garden which in its way is just as sweet—it is the cottage garden—and the only way to see how sweet this kind of garden may be is to live in one, for gardens are like people, and want knowing.

The High Hall Garden, where the rocks are calling "Maud, Maud," must be exchanged for the homely square or patch in which the largest trees will be Pears and Apples, and there will be neither lawns nor terraces nor brilliant beds of flowers. It is a curious thing about gardens that the more we fuss about them the less they satisfy. What is really lacking is often just that touch of careless freedom, or sort of semi-wildness, quite unlike neglect, which is seen to perfection only in the cottage garden patch. Perhaps one secret of the spell lies in the mixture of the beautiful with the useful. In the same way that a homely kitchen, with its shining pots and pans, its comfortable corners, and simple furniture will sometimes turn out to be the pleasantest room in the house, and the one that would "come" best in a picture—so it is with gardens. The cottager thinks first of use, and beauty steps in unawares. To see that this is so we need only cross the threshold of our cottage on a sunny morning in early spring, when a south wind is blowing, and wander down the paths to the little trout stream, which is flowing merrily past bush and sallow to the sea.

There is not the slightest doubt that if this

had been My Lady's Garden, the landscape gardener would have opened out a vista, as he would have called it, so as to give a view of the streamlet winding its blue length so prettily through marsh and meadow. Not so our cottage gardener; he simply left it to itself, and Nature has hidden it so cunningly in undergrowth of bush and Alder that hardly a glimpse of it is seen. It comes as a surprise, accounting for the mystery of the lullaby music that all day long has been singing to the sedges its quiet tune. We have heard it half unconsciously above the murmur of restless lovely seas that thunder softly on the beach not far away.

Slowly we saunter back. On either side the pathway espalier Pear and Plum trees are budding; behind them are rows of Curly Kale, Broad Beans, the comfortable Cabbage, and stacks of early Peas. Before them is a foot or so of ground where simple flowers are given a

shred will ever come up. Within due bounds, it is well to let our gardens have their way or the charm of individual character will be lost, and the garden folk will be as dull as Dr. Blimber's boys. It is much wiser for owners to exchange a little than to be always thwarting their gardens and spoiling their tempers. Everyone will recognise the Marigold garden, the Daffodil garden, the Rose and Pansy garden, and the garden of the flowering trees.

The keynote of this cottage garden must have been struck years ago. It is Violets. There are "a good few," as the country folk say, up by the steps at the doorway, but if you wait to see them, simply romping round in shoals, as merry as a troop of school girls on a holiday, you must go to the Gooseberry and Current bushes, and look for them under the prickly branches. It does not require much looking, there they are, you may gather until

your hands are full; blue Violets, white Violets, pinky Violets, Violets with short stalks, Violets with long stalks, pale lilac and dark purple Violets, like stars fallen from a rocket, every sort and every kind. They have established a colony and thrive in it, after the good old fashion of English and American settlers.

Now we have to come to the stream again, by another way, for the river winds. In a corner near the Osiers, something rosy pink is glowing. Pinks and reds, except for Anemones and Pyrus japonica, are scarce in spring, which always runs so much to blues and yellows. What can this blushing

beauty be? It is a smallish tree or bush and full of flowers celestial rosy red. It is a Peach. Who would have dreamed of seeing a Peach in such a place? A Peach, whose fate it generally is to be gummed tight on a wall. A rosy serving maid comes down the path to tell us lunch is waiting. "Why is the Peach put here in such a funny place?" we ask. "Twas mistress set the stone in there," the maid replies, "because she thought it such a warm and sheltered spot, and it has grown so fast. The fruit is lovely." So we can imagine. As we re-enter the parlour, where Phyllis has been filling the jugs and bowls with clean, fresh flowers, we think no fairer could be found, wherever she had culled them. Life in this homely garden has taught us much. We have seen the beauty of simplicity and the magic that lies in the unassuming commonplace of nature. For the future in our own gardens we will have less stiffness and formality, and let the garden folk have more of their own way. There will always be a



OUR COTTAGE GARDEN.

chance to grow, but they are sadly hindered, so many other things are fighting for a place; Parsley (always the rogue of the garden), Mint, Thyme, and many other plants squeeze in and elbow out the flowers. It is a question of the strongest winning, so the weakest resort to stratagem and push out runners on to the paths, where they seem just as happy, and are all in bloom; Wallflowers, Forget-me-nots, Daisies, and a pretty little stranger they tell us is Blue-eyed Mary, a kind of creeping Forget-me-not, with a tiny flower of brightest turquoise blue.

People who are observant must have noticed how every garden, be it where it may, if it be not over-trained and over-educated, will assert its own personality. It has its tastes, its likes and dislikes—almost in the same way as a family or school of children. Some gardens like to make a speciality of one flower, others take up something quite different. One garden I know positively refuses to grow Parsley. Another is just as obstinate over Mint; not a

pattern to go by, for the domain in which we have been wandering does not belong entirely to Looking-glass Land; with all its wildness and sweetness there really is such a place in an English village as "Our Cottage Garden."

F. A. B.

AN ARTIST'S NOTE-BOOK.

BUNCH PRIMROSE SULTAN.

SEVERAL amateurs are working for the improvement of Primroses as garden flowers. This fine flower, for which Miss Jekyll received an award of merit at a recent show of the Royal Horticultural Society, is one of the

latest results of about twenty-eight years of careful growing of these good garden flowers. It is 1 foot high and carries many trusses of bloom 5 inches in diameter, of a full Apricot colour deepening to rich dark orange in the centre. The individual flower has a diameter of $1\frac{3}{4}$ inches. The leaves are bold without being coarse and of a warm light green colour, which harmonises well with that of the flower.

The garden where this Primrose was grown has a very poor, dry soil, which, of course, has to be annually enriched, but in a better soil and cooler climate it would probably be much larger.

ORCHIDS.

LÆLIO-CATTLEYA HARRISONIÆ-SCHILLERIANA.

CATTLEYA Harrisoniæ is probably more widely distributed through Brazil than any other Cattleya, but though imported from the mainland, opposite Santa Catherina, a natural hybrid between it and the species *Lælia purpurata*, *Cattleya guttata* Leopoldi, and *Cattleya intermedia*, which there grow intermingled, has not been previously noted. That such hybrids do exist may now reasonably be assumed, as a plant to which the above name has been given is now flowering with R. H. Measures, Esq., of Streatham, and clearly shows its derivation from *Cattleya Harrisoniæ* and *Lælio-Cattleya schilleriana*, itself a natural hybrid between *Cattleya intermedia* and *Lælia purpurata*. Mr. Measures' collection of Orchids is very rich in varieties of *Lælia elegans*, and as there are yet many unflowered plants, and the enthusiastic owner and his able gardener, Mr. Coles, have particularly keen eyes for variations, even in pseudo-bulbs and leaves, possibly further natural hybrids may yet make their appearance in this collection.

There can be no doubt as to the authenticity of the plant noticed. The form of the flowers resembles that of *Cattleya intermedia*, but the segments are all much broadened. The sepals and petals are as though modelled in wax, thick and fleshy in texture, undulated on the margins, white suffused with a tender rose blush, the backs of the petals marked with minute dots of amethyst. The

lip is a very distinct feature, and clearly shows the influence of the two parents ascribed. The broad front lobe is of a deep amethyst, almost purple, slightly reflexed with a deep central sinus; the edges are heavily fringed, and arranged in bold convolutions. The amethyst colouring extends in four raised keels, six at the extreme base, to the foot of the column. The basal edges of the front lobe are white, and separated from the side lobes in the manner characteristic of *Cattleya intermedia* and hybrids from that species, but there the resemblance ends, as the contour and size of the side lobes exactly resemble those of *C. Harrisoniæ*;

is a cross with the above parentage flowering for the first time. Brilliantly coloured and beautiful as it now is, as the plant gains size and strength further beauty may be expected. Already the blossoms measure $6\frac{1}{4}$ inches across the petals, which, with the sepals, are a light Indian yellow, softened with clear yellow on their bases and margins, the petals in addition being flushed with a delicate tint of purplish red, with still darker veins. The lip is most conspicuous, of the brightest crimson on the apices of the side lobes, and on the large, broadly heart-shaped mid-lobe, the edges of which are as though goffered, so bold and uniform are the

marginal undulations. The apex alone differs, the colour there shading to yellow. The throat is a clear cream-yellow externally, the interior being of the same shade, but, as in some varieties of *Lælia purpurata*, is prettily ornamented with narrow radiating purple lines.



BUNCH PRIMROSE SULTAN.

(From a drawing by H. G. Moon.)

the edges are creamy white, the remainder a tender rose, as is the broad column.

LÆLIA PURPURATA MELANOXANTHA × LÆLIA CINNABARINA.

In the same collection as the preceding hybrids

It may be interesting to note that hybrids from *Lælia purpurata* and *L. cinnabarina* and the reverse cross have already been raised, and are known as *L. Latona* and *L. Yula*, but, as in the hybrid mentioned, from *Lælia purpurata* and *Cattleya lawrenceana*, the excellence of the parent varieties is reproduced in the hybrids. This point is of the most vital importance in hybridisation—it is a pity it is so often overlooked. The variety *melanoxantha* stands prominent among *purpuratas*, and in the present cross the immense superiority of the flowers to those of the hybrids with similar parents, particularly in the breadth and intense colouring of the labellum, is no doubt due entirely to its influence.

Two other most beautiful hybrids owning *Lælia cinnabarina* as the one parent were also

in flower at The Woodlands. The first, a very handsome form of *Lælia Latona* (*L. cinnabarina* × *L. purpurata*), is remarkable for the breadth of its segments, which, much wider than usual in this cross, are also brighter in colour, the crimson-red of the labellum extending for a considerable distance on the throat, both on the external and internal surfaces. The base of the throat is shaded with white passing into yellow on the margins, and, like most hybrids from *Lælia purpurata*, is charmingly lined with purple veins.

The second, *Lælia Yula*, has the same parents as *Lælia Latona*, but *L. purpurata* was the seed parent, and probably from that fact the flowers more nearly approach those of *L. purpurata* in shape, &c., than those of the pollen parent. The heavily fluted lip is deep purple, with darker radiating veins, extending from the throat to the apex. The shapely side lobes are slightly divergent, of the same colour as the mid lobe, but without the veins. Sepals and petals are flame yellow, flushed with purple, the petals more so than the sepals, and chiefly on the apical halves.

LÆLIA PURPURATA × *CATTLEYA LAWRENCEANA*.

By the law of priority this hybrid must be termed a variety of *Lælio-Cattleya hyeana*, but the advantage of using the finest varieties of the parent plants is well illustrated in this splendid form. The size of the flowers and their great substance depend to a certain extent on the culture, but their perfect contour, compactness, and wealth of colour point to the excellence of the parents. Sepals and petals are rosy pink, a warm shade. The labellum, from its intense colour, appears like velvet, so deep is the shade of purple maroon, the dominating colour. Intensifying this is a central wedge of bright rose-purple shading imperceptibly into the main colour, while deeper coloured veins are evident in the throat.

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

HERBACEOUS PLANTS.

DURING the hurry and rush consequent on the planting out of tender and other bedding plants, herbaceous plants and their needs are liable to be overlooked, but many of them will require attention in the matter of staking, and also, if the present dry weather continues much longer, in watering. Nearly all the early-flowering section, such as *Pæonies*, *Delphiniums*, and others, which make a considerable amount of top growth when at their best, will be grateful for occasional heavy waterings with well diluted liquid manure. This is especially helpful to *Pæonies*, which, if kept moist at the roots, open their buds into full and good flowers, instead of going blind as so many do when left to their own devices. All herbaceous plants which have been divided during the past spring should be well looked after in the way of watering, so that they can set up vigorous root action, which will carry them through the most trying part of summer.

STAKING.

One objection that has been advanced against the use of rather tall herbaceous plants in the garden is the ugliness produced by bad staking. Given good clumps of plants there is no necessity for pulling all the growths up together in a bunch, which represents a green faggot more than anything else. By judicious placing of the stakes, and using a sufficiency of them, far enough apart to enclose most of the clump without pressure, and leaving a few growths to be tied up singly in such a way as to conceal the stakes, a fairly good effect can be produced from the first, and after a while the plants assume a natural look that never comes to those which are bundled and enclosed in a band. Certainly the latter is the quicker method, but that is the only merit it has, and it is only worthy of consideration in dealing with plants not grown for garden effect, but as a reserve for cutting purposes.

SELECTION.

At this the outset of the flowering season I should like to insist on the advisability of keeping one's eyes open with a view to selecting the best or most pleasing types of everything grown. There are very few gardens in which the collection of flowering plants does not contain many more or less rubbishy types of plants, and some that are really good, but for want of looking over and marking the latter while they are in flower, with a view of increasing these and doing away with the poorer ones, the same thing happens again year after year. The good work which can be done by selection cannot be over-rated, and it is besides one of the most fascinating of pursuits in the garden. Take, for instance, a class of plant that will now be about getting to its best—the *Pyrethrum*—and I feel sure that there are very few collections that could not be greatly improved for garden effect by severe elimination of the poorer varieties, and this is only one instance of many that will crop up right through the summer and autumn.

VIOLAS.

Where these are expected to give a late summer display the flowers now being made should be picked off as fast as they form, so that the plants may be kept growing vigorously. If one does not care to sacrifice the flowers entirely they ought not at least to be left on to form seed pods, as so many of the *Violas* do freely. Straggling plants kept one year should have their shoots pegged down and be well mulched, but such plants never give the good results that may be expected from young stock as far as late flowering goes.

PLANTING.

This work must continue in spite of the drought, and should the present bright weather last shade applied in some form or other will be appreciated by most plants, and especially by those with shallow root action.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

INDOOR GARDEN.

CALADIUMS.

MANY of the stronger growing kinds will again require increased pot room, and as the season is now getting advanced a careful overhaul should be made, and any varieties which may want it be given larger-sized pots. A few sorts might here be instanced which are likely to be pot-bound, viz., *C. Mrs. H. J. Veitch*, *C. Marquis of Camden*, *C. Gerard Dow*, *C. Cardinal*, *C. Leopold de Rothschild*, *C. Pontia Ralli*, and many others. Soil as previously directed with just a little more stimulant will suffice, making sure that the fresh addition is made quite firm around the ball. Where it is intended to make large bulbs for subsequent exhibiting, the plants should be stood well apart, and every encouragement given to develop healthy and vigorous foliage.

FUCHSIAS.

Continue to feed and pinch growing stock, especially that struck in autumn and spring. These being the plants of the future the best attention should be given them; to favour an even growth the plants should be frequently turned round that the sun may have full advantage to ripen and mature the growth. At this stage farm-yard liquid manure, with a little soot added, makes a suitable tonic, but after the growth is practically made a more concentrated manure is recommended.

AMARYLLIS.

Continue to liberally supply with weak liquid manure water plants still making free growth; the earlier flowered bulbs will now be showing signs of going to rest, and as this state is approached less water should be given; but the syringe should still be made use of in keeping the foliage absolutely clean.

NERINES.

These will be showing unmistakable signs of going to rest, and less water will also here be necessary. I find it well to plunge the pots in leaves or some such material well raised up to the

light; this supplies the necessary moisture to the roots without the direct application of water which tends to destroy the roots.

CARNATIONS (MALMAISON).

The date again reminds me that the layering of the earliest flowered batch must no longer be delayed, and the plants should be prepared forthwith. A cold frame in which early vegetables have been forced makes a convenient and suitable position; the plants should be thoroughly overhauled, and should vermin be found these must be summarily dislodged, as no such opportunity will for some time be available. Remove sticks, and everything being in readiness, including a sharp knife, a start should be made, selecting the best growths and cutting away all surplus ones, as these only retard the rooting of those layered; give a sprinkling of water and shade from bright sun for a time.

J. F. McLEOD.

Dover House Gardens, Roehampton.

KITCHEN GARDEN.

POTATOES.

THE soil between rows of Potatoes should be deeply stirred with a fork before the roots have extended far enough to be injured by it, and where the ground is poor a dressing of Potato manure may be given with advantage, previous to earthing up, which should take place when the plants have attained the height of 6 inches or 8 inches. The height of the ridges will depend on the distance they are apart, but care must be taken not to draw the soil too high, forming a sharp ridge, which would be the means of casting off the rain water too far to be of any advantage to the roots; on light soil the ridges should be so formed as to direct the water to the roots by having them as broad as possible and highest at the sides. Sharp triangular ridges and a dry season are sure to prove detrimental to Potato crops, and it should be remembered that earthing up Potatoes is meant as a protection of the tubers from the effects of strong sun, which, though beneficial to the plant itself, quickly renders the tubers unfit for human food.

SEAKALE.

Young plantations of Seakale will have advanced far enough to require attention; the plants should be carefully examined and the shoots reduced to one on each plant, taking care to leave the strongest; the sooner this is done the better for next season's crop. Little further will be necessary unless the season is very dry, when the beds should receive a liberal watering from time to time to encourage the growth, and as the season advances a sprinkling of nitrate of soda may be given to ensure the full development of the crowns during the growing season. The Dutch hoe must be frequently used between the rows to keep the plants free from weeds.

CARROTS.

will now require thinning, and, if possible, a dull day should be selected for the purpose. For early varieties only a few inches between the plants will be necessary, but for larger growing varieties at least 6 inches should be allowed. If exhibition roots are desired greater space must be given to ensure sturdy growth, and frequent dustings of soot will prove very helpful to the crop as well as ward off the attacks of wireworm from which Carrot crops so often suffer. A good sowing may yet be made to come into use during the winter months from seed sown now; roots may be had quite large enough for ordinary use, and there will be less danger of them becoming hard than if sown early in the season. James' Intermediate and Model are good varieties for sowing now. Sutton's Early Gem should also be sown for pulling in the late summer months.

ENDIVE.

should be sown without delay for use in August. This plant requires a light rich soil, and may be sown in drills 1 foot apart, covering lightly with fine soil; as soon as large enough they may be thinned to 9 inches apart, and the young seedlings taken from the rows may be used for planting for

succession, and may be expected to come in a fortnight later than those allowed to remain in the bed.

PARSLEY

should be sown now to stand the winter; as soon as the plants are large enough they may be cut over and allowed to spring again, the next growth being more sturdy and better able to stand the winter.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

FRUIT GARDEN.

EARLY VINES.

WHERE pot Vines are grown for an early supply, the plants need more moisture at the roots than canes planted out, as lack of moisture at the roots, even with Vines quite ripe, will cause premature shrivelling. On the other hand, only sufficient water is needed to keep the foliage healthy, but from this date, with bunches showing colour, food will not be required. This remark applies to all Vines approaching the ripening period. Early permanent Vines near the glass, if the foliage is at all thin, should get partial shade. Some of the thin-skinned Grapes, such as Madresfield Court and Muscats, soon get scorched; indeed, the first-named is often injured just at the finish of the stoning if not carefully ventilated. The borders of early vineries should be thoroughly watered before the berries colour, and in the case of Vines bearing heavy crops a good mulching of rich manure will greatly assist the surface roots. I find cow manure an excellent mulch for my light, porous soil, and a thorough watering after the mulch is beneficial. Now is a good time to apply the last dressings of fertiliser in the case of Vines just finishing stoning; this will carry them through the colouring period. Young Vines planted out early in the year will now need more care in the shape of moisture. Food will not be needed with a good root-run, but partial shade and atmospheric moisture will promote robust growth.

MIDSEASON VINES.

These are grown more readily than earlier ones, as now, with ample daylight, there should be stronger growth. Thinning, always an important matter, is at times left too long. This remark applies both to the thinning of the berries and

removal of bunches also. It is a good plan to remove a certain number of bunches before they flower, as often two bunches show on one spur, and, in some cases, even one is not needed, as Vines are so soon crippled by overcropping, especially young ones. By early removal of surplus bunches the Vines are greatly benefited. In the case of bad setting varieties it may be advisable to leave a few more bunches, but with such kinds one may with advantage use the pollen of the free setters. After the thinning, my previous advice as to thorough watering of borders should receive attention, and from now till the finish food may be given liberally. Vineries that are used as plant houses need more care in watering. As far as my experience goes, the Vines rarely suffer from overwatering, but the reverse, and with plants on the borders the surface is moist, but lower down quite dry, so that thorough waterings at certain intervals are needed.

LATE VINES.

In many cases the borders are outside, and the rainfall during the past month has not been great, and with Vines in light soil or with a shallow border thorough waterings are necessary. Food also should be given as growth increases, and with a light, porous soil earlier mulches of decayed manure will be necessary. Dry borders have a tendency to drive the surface-roots down in search of moisture. These roots need to be encouraged and fed, and, this done, there is less trouble with shanking. In thinning it should be borne in mind that late Grapes should have more space. This specially applies to such kinds as Alicante, Gros Colmar, and other large-berried kinds, as, though the Alicante is not so large, if the berries are at all thick decayed ones give much trouble. With late Grapes every berry should have room to develop freely, as any wedging is fatal to keeping. I do not advise too much tying up of shoulders. A little support may be beneficial, but too much causes disfigurement of the bunches.

Syon House Gardens, Brentford. G. WYTHES.

CHERRY BLACK TARTARIAN.

THE accompanying illustration represents a trec of the above-named Cherry growing in a

cool lean-to house in the gardens of Enville Hall, Stourbridge, the residence of the Countess of Stamford. For more than thirty years past the gardens have been under the charge of Mr. G. H. Green, a very successful cultivator of fruit trees of all kinds. The Cherry here-with illustrated is but one of several almost equally fine trees in the same house. To cultivate Cherries under glass with real success it seems to be almost absolutely necessary that the trees should be planted out. When thus treated a regular and full crop of fruit can invariably be depended upon, which is certainly not the case with pot trees, at least in the hands of most cultivators. Mr. Green speaks highly of the variety Black Tartarian, and also of May Duke, recommending both as excellent for indoor culture.

TREES AND SHRUBS.

CLADRASTIS TINCTORIA.

A RECENT plate (No. 7767) of the *Botanical Magazine* gives a portrait of a flowering spray of this handsome and interesting tree, known to many perhaps as *Virgilia lutea*. In English gardens it has been known for about ninety years, having been introduced in 1812 "by John Lyon, a Scotchman." Although it flowered in the old Botanic Garden at Chelsea and elsewhere sixty years ago, one very rarely sees it in bloom. This shy-flowering character does not appear to be inherent to the species, and in this country seems to be mainly due to want of sunshine, for it flowers freely enough in warmer climates than ours. At Kew there is a fine old tree about 25 feet high with a clean well-formed trunk and a wide-spreading head of branches. This tree flowered last summer, its flowers being Pea-shaped and borne in pendulous racemes 1 foot or so long; they are white with a patch of yellow at the base of the standard petal. The leaves consist of $3\frac{1}{2}$ to $6\frac{1}{2}$ pairs of leaflets, each leaflet 3 inches to 4 inches long, ovate or obovate in outline, smooth and deep green. A handsome feature of the tree is the smooth, grey, Beech-like bark. The tree is found wild, although it is not common, in the south-eastern United States on the inland bases of the Alleghany Mountains. Its bark yields a yellow dye, and it is commonly known as "yellow wood" or "Gopher Wood."

It is a curious phenomenon in the geographical distribution of plants that the only other species of *Cladrastis* known should be found thousands of miles away. This species is *C. amurensis*, which was discovered in Manchuria in the Amoor River basin, so that the North Pacific Ocean and the greater part of the North American continent separate the two species. There are, however, other similar instances, of which the genus *Magnolia* affords a well known example. This Asiatic *Cladrastis* is apparently of a more shrubby character than the American one, and it shows none of its disinclination to flower. At Kew it has blossomed in July and August for several years past. The dull white flowers are very small (one-third of an inch across), but are very closely packed on stiff racemes 4 inches to 6 inches long, very different to the lax open panicles of *C. tinctoria*. The shrub is pretty just now when the young pinnate leaves are bursting, these being of a delicate purplish shade.

BERBERIS STENOPHYLLA.

RAISED a good many years ago in the well known Handsworth Nurseries, near Sheffield, as an accidental cross between *Berberis Darwinii* and *B. empetrifolia*,



BLACK TARTARIAN CHERRY IN BLOOM AT ENVILLE HALL.

(This is one of the finest trees in England.)



THE ABBEY SEEN THROUGH A VISTA.

this evergreen Barberry has proved itself to be an infinitely superior plant for gardens to either of its parents. It is, indeed, the best evergreen Barberry, and one of the best of all flowering shrubs. It has a graceful free growth, forming ultimately a dense, impenetrable mass of interlacing branches, from out of which each year push forth slender arching shoots several feet long. These are now laden from end to end with clusters of golden yellow blossom. A single plant will ultimately get to be about 8 feet high, and even more in diameter, but a quicker effect can be obtained by planting it in groups or massing it on sloping banks. Its thick, dense habit and very dark green foliage render it an admirable screen plant. It roots readily from cuttings dibbled in sandy soil in a cold frame as soon as the wood is firm. It does not come true from seed, reverting as a rule more or less to *B. Darwinii*. Some of these seedlings have been named and distributed.

W. J. BEAN.

The Arboretum, Royal Gardens, Kew.

BRITISH HOMES AND GARDENS.

FORDE ABBEY.

FORDE ABBEY is a noble country home in form and equipment, and its surroundings are of exceptional beauty. The first point which strikes one is that the successive owners of the structure have never feared that the encouragement of wall trees and climbers might destroy the symmetry of the building or blur the delicacy of its lines. Thus on the south wall of the chapel grow five Jargonelle Pear trees, which have stood in their places for more than a century, bearing the delicious fruit which is at its best, like many other fruits, when it is picked from the tree and eaten when the warmth of the sun is still in it. Hard by the Vine, the Virginian Creeper and the Ivy are closely associated, so that there is always a cloak of tender green in summer, of sunborn scarlet and crimson of Virginian Creeper in autumn, and of sombre Ivy in winter. These

are allowed to grow with considerable freedom. To the portico clings *Clematis montana*, a vision of beauty when it produces a cloud of white flowers in spring. Climbing plants flourish amazingly everywhere, Virginian Creeper on the central tower, beneath which is to be found William Allan Richardson, of which the buds give a richer promise of Apricot colour than the flowers ever fulfil. Then the southern walls are clothed, as with a garment, in sweet, old-fashioned Roses, in small-leaved Virginian Creeper, in great variety of clinging Clematis, and in Jasmine; and in a border at the base many tender plants, Heliotropes, Ivy-leaved Pelargoniums, Gladioli, and the like are grown, not in lines, or in chaos, but in masses of one colour.

A wide walk runs from one end of the grounds to the other, and at the western end is a long wall, 6ft. high, which, with the border below it, is of remarkable interest. Here, in the first place, are some ancient Apple trees, very beautiful, if for a short time only, in the time of blossom, and these as they die out are replaced by climbing Roses of many kinds, and sometimes by young Pear trees. In passing it may be permitted to express a hope that some day the Japanese custom of considering Apple and Plum and Peach and Cherry as flowering shrubs no less than as fruit-producing trees may become more prevalent than it is. But to return to our wall, it has an interesting border beneath it, where *Choisya ternata* and *Escallonia* and other shrubby plants flourish abundantly, and in front of them is a sound herbaceous border, of really hardy herbaceous plants.

Away on the eastern side of the abbey is a sunk garden, known as the Port Garden, which may be seen to great advantage from the end of the terrace. It is, save for the fact that Azaleas and Rhododendrons, which are attempted, do not flourish on the limestone, a remarkably good example of what cultivated taste may do in the way of arrangement with shrubs and low-growing trees. Red-flowered Horse Chestnut, *Acacia sempervirens*, the variegated Maples, Hollies,

double-flowered Thorns, Weigelas of many kinds, *Osmanthus*, *Eleagnus elegantissimus variegatus*, and many-flowering shrubs are there in beds of irregular shapes, and these beds are brightened by bold groups of flowers in their season, bulbs in the spring, and Pansies a little later, Delphiniums, dark and azure, Sunflowers, and Ageratums. Then close to the wall come hardy Fuchsias, the white sweet-scented *Nicotiana*, which did so marvellously last year, and *Hyacinthus candicans*. All these, with very slight protection, will survive the winter well in that gentle air. Tea Roses, too, thrive amazingly on the low stone walls, and borders at the foot are made gay with annuals. The setting of this beautiful house, and the absolutely adjacent terraced garden, the two together being regarded as the jewel, is of extraordinary beauty. The views of the rich West Country are extensive and peaceful; the park, which stands above the abbey, is marked by some very fine timber, and at a higher level than the abbey lie some ornamental ponds and a knoll known as the Mount, where trees and shrubs in great variety, with bulbs and hardy plants interspersed, form a beautiful scene at almost any period of the year. The evergreen Cypress is

there, and the Cedar of Lebanon, sadly mutilated by a recent storm, spreads its horizontal arms. Pine trees of great age, allowed to have plenty of space, sweep the green turf with their branches, and down by the ornamental pond there are masses of Rhododendrons, the branches of which actually dip into the water. Then the wise distance apart at which the trees are planted not only permits them to develop their full beauty, but also allows spaces giving rarely lovely views of the adjoining estate, and encourages a good growth of Crocuses, and Squills, and Daffodils, and Snowdrops, of the Meadow Saxifrage, and of the spotted Orchis. Altogether the Mount is a very pleasant place.

Nor must we forget the trees along the curving drive and in front of the abbey. The drive is very striking with its bold bend, its fine specimens of Oak, Horse Chestnut, and Beech, its particularly fine *Araucarias*, its masses of Rhododendrons and Pampas Grass. By this approach, too, is obtained a view of the abbey, perhaps the best of all, of the ornamental water where the white Water Lily and the Arum vie with one another, and of a tennis court, which in all probability occupies the ground in which Abbot Chard and his predecessors kept their fish for fast days; and round the margin where the monks sat and angled, or perhaps laded out their fish with a net, are standard Roses, and Rhododendrons, and Pampas Grass, and *Tritomas* or *Kniphofias*, which the homely call red-hot poker or Torch Lilies.

A rock garden there is also, and a wild garden in a disused gravel pit, and the stone-walled garden which produces wonderful Apples and Pears, and in it the gardener's picturesque cottage, and behind it a famous orchard. In the abbey yard, too, is a splendid Quince, most undeservedly neglected of trees, and over the back door is an ancient arch, now a thick mass of Ivy and climbing Roses, which formerly spanned the moat. Altogether Forde Abbey is a place entirely delightful from every point of view, where successive owners, being men of taste all, have been engaged ever since

the twelfth century in making the best of splendid opportunities of soil and climate.

Mr. Crook, the gardener in this charming place, is one of the most valued of our correspondents.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

GALANTHUS ELWESII VAR. WHITTALLII.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—One is glad to find that the opinion of Mr. W. Irving, who has so many opportunities of studying hardy plants at Kew, is so favourable to this splendid variety of *G. Elwesii*. I feel confident that the inability of some to recognise the superiority of this to the ordinary form is caused by their not having grown it under favourable conditions, such as the strong heavy soil recommended by your contributor. When I first received my bulbs from Mr. Whittall I was doubtful as to where to plant them, and distributed them over the garden under a variety of conditions, from damp peaty to light dry soil, and also in a strong loam, such as does not suit many bulbs. In the last it has done extremely well, while on a dry, sunny rockery one could not detect any difference between it and a poor form of *G. Elwesii* grown on better soil. The next finest flowers were from a corner in the rock garden below the level of the path and in moist peaty soil, such as suits *Lilium canadensis* with me. Here, also, the flowers were large, on tall stems, and the foliage was broad and bold. There is some variation among the flowers of *G. E.* var. *Whittallii*, but only a few bulbs will produce narrow leaves and small flowers if grown, as Mr. Irving suggests, in a strong heavy soil.

S. ARNOTT.

COOL STORAGE FOR FRUIT.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In reply to a correspondent, Pears being more delicate than Apples require more warmth in the store. The temperature must be carefully kept steady at not less than 48° nor much more than 50°, as this suits the majority of varieties, until they attain their natural season of use, beyond which there is no chance of keeping them longer in a fresh, plump state for table under any circumstances. Stewing Pears are not so susceptible to changes of temperature. It is evident that your correspondent's fruit room is unsuitable for keeping fresh fruit, being of too high a temperature, apart from the other drying influences that arise from dry-absorbing wood all round, which the situation of the room to a large extent creates, and in that case there is no possible chance of keeping the room at a proper temperature. Apart from the foregoing drawbacks, other things militate against the fruit keeping, such as being under-ripe when gathered. There can be no greater mistake than that of not allowing the fruit to re-

main long enough on the trees to mature properly, and this arises from a fear of the fruit suffering from cold nights towards the end of September and the beginning of October. Even at these dates the fruit may not be ripe, owing to the condition of the tree roots, for if these are deep in a cold, damp clay soil the fruit will have more watery juice in it than is desirable. While this is so there is no chance of the fruit ripening as it should. Such fruit will not keep nor have its proper flavour, even although stored in a proper place. The remedy for this is root pruning, and I know of no place where this is so necessary as where the subsoil is clay, that invariably gets cold and damp towards the end of the season when maturity is taking place in the fruit.

Root pruning entails much labour, forethought, and practice to do it thoroughly so that good results may follow, for if it is to be one of the main factors towards success, then nothing should be left undone in that line that will contribute to success. All who have Pear trees growing on a clay subsoil should be careful to see that the roots are kept out of it by being examined every three or four years, and all roots going into it should be carefully cut and brought nearer the surface to the sun's warming influences. The trees themselves need to be kept free from Moss, lichen, and loose bark to remove the chance of insect lodgment; also they must be kept clear of thick breast wood and close set spurs, so that the fruit may have the benefit of all the sun possible. To get clean full-sized fruit properly matured should be the object and aim of the cultivator, for, however suitable the store room in itself may be, there is no chance of success in keeping the fruit in a proper state if the fruit itself is not in ripe condition when stored. Those situated as your correspondent is, with a clay soil, should plant near the surface, with the tree sites specially prepared, first with six or more inches of mortar rubble, sandstone, or anything of an open warm nature made firm, then some loamy soil mixed with the natural soil of the garden, from 18 inches to 2 feet deep, according to

the lay of the ground, the former on the flat and the latter on the slope. In all such cases trees on the Quince, which do not root deeply, should be planted in preference to those on the free stock, whose roots strike deep into the soil and take up water freely and produce gross unfruitful growth, so that fruit produced under these adverse conditions is not likely to keep plump and fresh until the proper season of use.

Coolhurst, Horsham.

A. KEMP.

OUTDOOR CHRYSANTHEMUMS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—You have a most valuable note on early varieties. Can you give me a note about the late ones? Anyone can get flowers in September, but it is most difficult to get them in December and January. Market White, Mme. Desgrange, and Rycroft Glory are then over. What we need is something to follow. Cottage Pink goes on, and I have a white kind that bloomed last year into the last week in January. I do not know its name, but it badly needs companions. If you can assist me I shall be deeply grateful.

Surrey.

HERBERT S. STONEHAM.

[We quite agree with you that anyone can get Chrysanthemums in September, the culture of the early sorts being so simple and the variety both in form and colour charming. It is easy to compile a list of sorts suitable for this purpose, but much depends upon the weather and also the situation of your garden. There are very few gardens in this country where it is possible to flower Chrysanthemums outdoors so late in the winter season as you desire, and yours must be a delightfully warm position to succeed with one or two varieties as you say you have done in the past. Last year the Chrysanthemums flowered most successfully outdoors until a very late period, but this was quite an exception to the general rule. There is always a risk of the plants making handsome specimens, only to be damaged by a severe frost, just before or during the flowering period. The worst effects are



THE LARGE LAKE AT FORDE ABBEY.

seen when a frost succeeds rain. If you have a wall with a warm aspect you may succeed, a position such as this reducing the risk of damage by frosts considerably. If this same wall has also a good wide coping it is a distinct advantage, this preventing the flowers from becoming damaged by wet during rainy weather, at least to some extent, and frosts in consequence are less likely to do harm. You may also have a position with a southern aspect, this being created by a border of shrubs and trees. In this case the ordinary method of planting out may be followed with success, providing the soil of your garden is not heavy and retentive in character. Old stools planted out in the positions described answer very well indeed, and unless stout and sturdy plants of those raised from cuttings this spring can be procured, we should be disposed to use the former in preference if they can be obtained. Plant firmly in soil of a fairly rich character, and avoid crowding the plants. Three feet apart should answer the purpose of most plants, although a few of the Pompons will be satisfied with less space. It would not be wise to allow all the lateral growths to proceed, as far better results are likely to be achieved by reducing the number to those which possess stoutness and vigour. If planted against a wall the shoots should be fastened to the wall by the aid of nails and shreds, arranging them in such a way that full advantage may be taken of sun and air. The growths will then become nicely ripened and matured, and in consequence will be better able to withstand the effects of trying weather later. With these few remarks we will proceed to give the names of suitable sorts for late blooming outdoors. Blooms of reflexed form have advantages over others, as the rain runs off them, and they also last longer in consequence. *Reflexed* varieties are Cullingfordii, crimson-scarlet; Golden Christine, golden-buff; King of Crimsons, deep crimson; pink Christine, light pink; white Christine, white; Julie Lagravere, dark velvety crimson; and Boule de Neige, white. *Japanese* varieties are numerous, but the best are Etoile de Lyon, lilac-rose, shaded white; Miss Jessie Cottee, golden-bronze; Mlle. Lacroix, white; Annie Clibran, a lovely pink; Western King, pure white; Golden Dart, golden yellow; H. W. Rieman, yellow; Mme. Ph. Rivoire, pure white; Source d'Or, old gold; Eynsford White, white; Golden Gem, orange shaded crimson; Mme. Felix Perrin, rose-pink; Souvenir de Petite Anie, white; Tuxedo, orange shaded chestnut; G. W. Childs, rich deep crimson; M. Chas. Molin, orange shaded red; and L. Canning, white. *Pompons*.—



MESSRS. JOHN RUSSELL AND SON'S EXHIBIT AT THE TEMPLE SHOW.

Snowdrop, white; Primrose League, primrose-yellow; William Westlake, rich yellow; and Rosinante, blush rose. *Singles*.—Mary Anderson, blush white; Miss Annie Holden, canary yellow; Emily Wells, clear pink; Eucharis, pure white; Scarlet Gem, bright reddish crimson; and Mrs. D. B. Crane, cerise-pink. In the above selections, varieties are included which should keep your garden gay from early November until January. —Eds.]

IPOMÆA RUBRO-CERULEA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Allow me a few words in favour of this most delightful member of the Bindweed family, which was recently illustrated in THE GARDEN (page 354). It is a particular favourite of mine, the acquaintance dating back now many years. About 1883 I first met with it festooning the roof of the Water Lily house at Kew, and though late

in the autumn it was then thickly studded with its exquisitely coloured blossoms. In this latter respect there is a certain amount of variation, but, speaking generally, the flowers are of an almost indescribable shade of pale blue, but before they drop become suffused with a peculiar reddish tinge. The fact that this *Ipomæa* will flower throughout the autumn is a great point in its favour, as subjects like this, so far removed from the beaten track, are few and far between. If the seed is sown in the spring the plants will, given ample root room, soon cover a considerable space, and allowed to grow in a loose and informal manner they are particularly attractive. On the other hand, they may without difficulty be grown in pots from 6 inches to 10 inches in diameter, and permitted to ramble over a few twiggy branches or trained to a trellis. In this way they can be moved about and employed for various decorative purposes, which is not the case if planted out and trained to the roof. Its cultural requirements are simple, as seed germinates readily, and given fairly good soil the plants grow quickly. The principal consideration is to keep the leaves free from red spider, which is apt to give trouble if the atmosphere is too dry. A liberal use of the syringe will, however, keep them down. According to the "Dictionary of Gardening," *Ipomæa rubro-cerulea* is a native of Southern Mexico, whence it was introduced in 1830, but at the period of which I first write it was very little known. Treated as a warm house annual, a second species, *Ipomæa Quamoclit*, with its prettily divided leaves, and slender tubed, bright red blossoms, forms a very pleasing feature. H. P.

THE KITCHEN GARDEN.

TOMATOES IN AUTUMN AND WINTER.

SO many Tomatoes are sown in the spring, from February to May, that special sowings in June, for autumn supplies, are not often made. I am aware, given good culture, spring-sown plants may be cropped late into the autumn, but when a full crop is taken during the summer the plants do not produce so freely as younger ones grown specially for the purpose. I am also aware that in the autumn, say, from September to December, many growers need their houses or pits to store plants and cannot spare the space, but it is space



CALCEOLARIAS AND CINERARIAS FROM MESSRS. SUTTON AND SONS. (Exhibited at the Temple Show.)

well utilised. If a small house can be given up to an autumn crop those who like this vegetable may have them for the greater portion of the year, as this lot of plants will give fruits at a time when Tomatoes are scarce. By sowing in the early autumn and wintering the plants to promote as hardy a growth as possible, this lot of plants will fruit much earlier than those sown early in the year. Seed sown in June is best raised in frames near the glass. We place ours in cold frames kept close, as a sturdy plant at the start is important; indeed, at this season of the year fire heat is not needed, as though germination may be slower, the plants are quite large enough for planting out in the middle of July. Placed in low pits or small houses, where abundance of ventilation can be given, the plants give little trouble; indeed, when fairly started into growth after planting the sashes are always left open at night, and if entirely removed until the end of September so much the better. It is important to get a full set of fruit, and this is easily done with healthy plants. Fruit soon swell when the pits are closed and food is given to the plants at the season noted. Pot culture may be given, but this entails more labour in potting up, watering, and other details. We find the planting out on a small ridge of soil best, and, though many advise poor soil for Tomatoes, I do not for the winter crop, as the growth is made under difficult climatic conditions to summer fruiters. For this work I have found Frogmore Selected and Winter Beauty most trustworthy, as they set so freely. G. WYTHES.

Syon House Gardens, Brentford.

THE TEMPLE SHOW.

(Continued from last week.)

INDOOR PLANTS.

MESSRS. PEED AND SON, West Norwood, S.E., had an excellent lot of Caladiums, well-grown plants that were set off to the best advantage. Some of the more noteworthy varieties were Charlemagne, Rose Laing (one of the best), Mrs. Harry J. Veitch, Silver Cloud, Verdi, Sir Henry Irving, Roncador, Leonard Bause, Rio de Janeiro, and Triomphe de Comte.

Messrs. Cutbush and Son, Highgate Nurseries, N., had one of the best arranged and brightest groups in the show. Palms, &c. formed a green border at the back; the groundwork was chiefly of Malmaison Carnations, while clumps of yellow Callas, Carnations, Clematises, small mounds of Lilies of the Valley, Ericas, &c. gave a touch of colour and varied the character of the exhibit. Some of the best Carnations were William Robinson, a good scarlet; Lady Mimi, salmon; Herbert J. Cutbush, deep scarlet; and Sir Hector Macdonald, white, striped salmon. A margin of Ferns and other dwarf-growing plants margined the front of this tastefully-disposed exhibit.

Mr. H. B. May, Dyson's Lane Nurseries, Edmonton, exhibited a group of very well-grown plants of Crimson Rambler Rose, Clematises, zonal Pelargoniums, finely-coloured Crotons and Ferns. The latter included Polypodium Mayii, Platycerium grande, Gymnogrammas, &c.

Messrs. J. Veitch and Sons, Limited, Chelsea, in their splendid display of Caladiums somewhat varied their usual method of arrangement, and with very great advantage. The centre was taken up by some beautiful Lælio-Cattleya hybrids, and interspersed amongst the surrounding Caladiums were other interesting stove plants, such as Anthurium crystallinum illustre (beautifully variegated leaves), Ananassa sativa variegata, Tillandsia fenestralis, Cyanophyllum magnificum, yellow Callas, &c. Baron Adolphe de Rothschild, Silver Cloud, Rose Laing, Mme. John Box, Pantia Ralli, and Mlle. Schmidt were a few of the best Caladiums.

Messrs. Russell and Sons, Richmond, Surrey, made a good display with hardy flowering and ornamental leaved shrubs. The Tree Ivies were well represented (Golden Cloud being one of the best), Eurya latifolia variegata was prominent, and Aralia Maximowiczii. The Golden Elder, Ceano-

thus, Loniceras, Hedera madeirensis variegata, Genista prostrata, Azaleas, Lilacs, and Japanese Maples in great variety were also well shown.

Messrs. Richard Smith and Co., Worcester, had a splendid lot of specimen Clematis on view, the trellises upon which they were trained were masses of flower. Excelsior, deep blue; Sensation, a paler blue; Mme. Van Houtte, white; Princess of Wales, a grand blue; Marie Lefebvre, pale lilac; and La France, intense violet, were a few of the best kinds shown. Large specimens of Rose Crimson Rambler placed here and there between the Clematises added a brilliant bit of colour.

Mr. W. Icton, Putney Park Lane, Putney, S.W., exhibited Lilium longiflorum, splendid Lilies of the Valley, Caladiums, Palms, &c., all of which denoted the best of culture.

The Right Hon. Lord Hillingdon, Hillingdon Court, Uxbridge (gardener, Mr. A. R. Allan), sent some excellent Malmaison and other Carnations. Mrs. Martin Smith, Old Blush, Mrs. de Satge, deep scarlet; Nell Gwynne, white; and Prime Minister, scarlet, were well shown.

Aralia Handsworthensis, with A. Veitchii gracillima for comparison, was exhibited by Messrs. Fisher, Son, and Sibray, Limited, Handsworth, Yorks. It is a most graceful plant, with even more

Ivernina. Lælia purpurata was splendidly represented in the varieties Sunray and atro-rubens.

Messrs F. Sander and Co., St. Albans, arranged a splendid collection, comprising many Orchids of great beauty. Included were many fine Odontoglossums, O. Pescatorei Empress, O. crispum Windsor, O. crispum album, O. c. Memoria Victoriæ Reginae, O. triumphans delangeanum, O. facetum nobilior, &c. Cattleya intermedia alba, Cypripedium gottianum, Cattleya Mossiæ reineckiana, Miltonia Bleuana nobilior, well grown Cymbidiums in variety, Miltonia vexillaria Empress Augusta, Cattleya reineckiana Fascinator, and Cattleya Mendeli Queen Empress were a few of the many choice specimens exhibited by Messrs. Sander.

Messrs. B. S. Williams and Son, Upper Holloway, N., in their collection of Orchids, showed, in addition to a fine display of Vandas, Cymbidiums, and Cypripediums, several fine varieties of Cattleya Mossiæ, C. Mendeli, and Odontoglossum Alexandræ. Oncidium concolor, one of the most beautiful of yellow flowered Orchids, was also conspicuous.

Messrs. Hugh Low and Co., Bush Hill Park Nurseries, Enfield, had a very interesting display of Orchids in variety. Odontoglossum Adriane,



MESSRS. JAMES VEITCH AND SON'S EXHIBIT AT THE TEMPLE SHOW.

finely cut leaves than A. V. gracillima, and of a beautiful pink tint.

Conpteris brazziana, a handsome Fern, was shown by l'Horticulture Coloniale, Limited, Brussels.

Viola Royal Sovereign, a beautiful deep yellow, came from Messrs. George Stark and Son, florists, Great Ryburgh.

A. Henderson, Esq., M.P., Buscot Park, Faringdon, Berks (gardener, Mr. W. L. Bastin), exhibited a collection of fruit and vegetables that included excellent Peas in pots, Broccoli Late Queen, Cauliflower Snowball and First Crop, good Asparagus, Potatoes, &c.

ORCHID COMMITTEE.

Messrs. Charlesworth and Co., Heaton, Bradford, Yorks, exhibited an interesting group of miscellaneous Orchids, including several good hybrids. Oncidium marshallianum, Cypripedium nitidissimum, Masdevallia veitchiana grandiflora, Cattleya Mendeli Brilliant, C. Parthenia, Cattleya Mendeli Aurora (a splendid flower), Miltonia Bleuana, very fine varieties of Cattleya Mossiæ and of Odontoglossum Pescatorei were all well shown. The hybrids included L.-C. G. S. Ball (Lælia cinnabarina × Cattleya Schroderæ), L.-C. Hippolyta (L. cinnabarina × C. Mossiæ), L. Cattleya

very fine forms of O. crispum, Cypripedium Goweri magnificum, Lælia digbyana, Cypripedium laurenceanum gratixianum, many beautiful forms of Cattleya Mendeli, including C. M. Mrs. Robert Tunstall (award of merit) and C. M. His Majesty, Cattleya Youngi (sent by Reginald Young, Esq., Linnet Lane, Liverpool), Cymbidium lowianum canariense (distinct), Cattleya Mossiæ Sir Alfred Milner (blue lipped), Cattleya Schroderæ alba, Cypripedium insigne Sanderæ, and Cattleya Mendeli aurantiaca were conspicuously interesting.

Vanda Teres was splendidly shown by Lord and Mr. Leopold Rothschild, Gunnersbury Park (gardener, Mr. J. Reynolds), a large display of the type and the Rothschild variety attracting much attention.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young), had a beautiful arrangement, wherein were included Phalænopsis grandiflora, Odontoglossum Adriane, O. crispum Marmoratum, O. Tralii, Miltonia vexillaria Chelsoniensis (very fine), Cattleya superba splendens, Lælia cinna-brosa, (Lælia tenebrosa × L. cinnabarina), Oncidium sarcodes, Odontoglossum excellens. Splendidly-grown plants of Cymbidium Lowi were placed behind, and Aerides Fieldingii,



MESSRS. R. WALLACE AND CO.'S EXHIBIT OF HARDY FLOWERS.

placed here and there towards the front, were very pretty.

Mr. James Cypher, Cheltenham, had a well-arranged group of miscellaneous Orchids. Very fine *Oncidium Marshallianum* were effectively made use of, and well shown were *O. Pescatorei*, *Cattleya Mendeli*, *Miltonia vexillaria*, *Cattleya Mossiae*, *Lælia purpurata*, *O. crispum*, *Miltonia v. cobbiana*, &c. *Masdevallia harryana*, *Odontoglossum triumphans*, *Cattleya Skinneri*, *Dendrobiums* in variety, &c.

Mr. John Cowan, Gateacre Nurseries, Liverpool, showed in good form the following amongst other Orchids: splendid *Cattleya Mossiae*, *Lælia cinnabarina*, *Odontoglossum Mulus*, *O. Adrianae*, *Cattleya Schroderae*, *O. triumphans*, *Cattleya Mendeli*, &c.

Ludwig Mond, Esq., Avenue Road, Regent's Park (gardener, Mr. J. O. Clarke), exhibited a pretty group, in which were comprised *Cymbidium Lowi*, *Odontoglossums* in variety, *Cattleya Mossiae*, *Palms*, and *Asparagus* being used with good effect in the arrangement.

M. F. Claes, 55, Rue des Champs, Brussels, had a fine display of *Odontoglossums*, types that showed great variation in marking, *O. crispum* Captain Hocker, *O. triumphans latisepalum* Lighthouse, *O. t. alba clesianum*, *O. andersonianum* Etterbekense, *O. Adrianae* Luminous, being some of the best.

Messrs. Stanley, Ashton and Co., Southgate, showed several very choice Orchids in their collection. *Odontoglossum crispum* Abner Hassell (described elsewhere) was conspicuous, and *Cattleya Mossiae*, various *Masdevallias*, *Cypripediums*, including *C. Gertrude* Hollington, *Cymbidium*s, and *Miltonias* were included.

J. Leeman, Esq., West Bank House, Heaton Mersey, exhibited many splendid forms of *Odontoglossum crispum*. *O. c. Constance* Leeman, *O. c. New Queen*, *O. c. Bijou*, and *O. c. Mignon* were some of the best. Others shown were *O. Adrianae*, *Lindenae*, *O. Pescatorei* *Lindenae*, &c.

Captain Holford, Westonbirt (gardener, Mr. A. Chapman), showed *Odontoglossum crispum* Ian and *O. Adrianae* Mrs. Menzies.

Lælio-Cattleya Dido, and another *Lælio-Cattleya* hybrid with orange-yellow flowers, was sent by the Hon. Walter Rothschild, M.P.

W. Thompson, Esq., Walton Grange, Stone, Staffs. (gardener, Mr. W. Stevens), sent *O. crispum* Hebe and *O. c. Golden Queen*.

M. Lucien Linden, l'Horticole Coloniale, Brussels, made an attractive display with *Phalænopsis* amabilis varieties and his new showy *Hæmanthus*.

Mr. A. A. Peeters, Brussels, exhibited several very fine *Odontoglossums*, including *O. Rolfeae* ophium, *O. crispum* Queen Victoria, and *O. Adrianae* mirabile.

M. Jules Hye, Ghent, sent *Odontoglossum crispum* Idole.

J. Rutherford, Esq., showed *O. crispum* delicious and *Lælia purpurata* Charlotte.

ROSES.

These, as usual, made one of the most beautiful features of the entire show.

Messrs. William Paul and Son, of Waltham Cross, had one of those delightful displays for which they are so justly famous. There were cut flowers in abundance, and among the many charming varieties we noticed *Maréchal Niel*, *Sylph*, *Marquise Litta*, very good as a standard; *G. Nabonnand*, the lovely *Polyantha* *Rose Leuchstern*, a mass of delightfully-coloured single flowers, rose, with white centre; the beautiful *Hybrid Tea* *Tennyson*, white, blush centre; *Blushing Bride*; the double rose-coloured *Spenser*, a very striking and handsome variety; and the hybrid *wichuriana* *Pink Roamer*.

Mr. Charles Turner, of Slough, had a splendid group, well arranged, and presenting masses of decided colours. Groups of colour were made by *Camille Bernardi*, *Juno*, *Mrs. John Laing*, *Crimson Rambler*, *Mrs. R. G. Sharman* *Crawford*, *Perle d'Or*, *Ulrich Brunner*, and a series of French and fancy *Pelargoniums*, which we are glad to see Mr. Turner has not lost faith in. At one time, of course, these were inseparable from every exhibition, and in good time they will again become popular.

Messrs. Paul and Son, of Cheshunt, showed many beautiful kinds, in pots and otherwise, such as the *Hybrid Tea* *Lady Battersea*, a beautiful yellow seedling, tea-scented variety; the deep crimson *Hybrid Tea* *Liberty*, *Mme. de Watteville*, the exquisite *Polyantha* *Leuchstern*, *Margaret Dickson*, *La France*, the climbing *Rose Psyche*, *Crimson Rambler*, and many others as beautiful.

Mr. B. R. Cant, the Old Rose Nurseries, Colchester, brought many lovely varieties, such as *W. A. Richardson* (we have never seen this so fine in colour), *The Bride*, *Mme. Hoste*, *Ulrich Brunner*, *Claire Jacquier*, and others. An excellent display in all ways.

Mr. Frank Cant, Braiswick Nursery, Colchester, sent many charming varieties, including *Tea Rose* *Lady Roberts*, of apricot colouring, the new crimson and very fragrant *Grüss an Teplitz*, *Hybrid Tea* *Daisy*, *Hybrid Tea* *Mme. Rowary*, *Mme. Laurette*

Messimy, and such beautiful climbers as *Thalia*, *Euphrosyne*, and others. A very charming display.

Mr. George Mount, Canterbury, arranged a magnificent lot of *Roses*. *Crimson Rambler*, in pots, formed the background, with stands and vases of cut blooms in front. *Maréchal Niel*, *Caroline Testout*, *Mrs. J. Laing*, *Ulrich Brunner*, and *Baroness Rothschild* were excellent and well represented, also were *La France*, *General Jacqueminot*, *Catherine Mermet*, &c.

Mr. W. Rumsey, Joyning's Nurseries, Waltham Cross, showed a lovely lot of cut *Roses* in vases and in stands. *Maréchal Niel* was splendid, and *Niphetos* also. *L'Idéal*, *Charles Lawson*, *Edward Morren*, *Reine Olga*, and many others were well staged.

MISCELLANEOUS.

Messrs. W. H. Rogers and Son, Limited, Red Lodge Nursery, Southampton, exhibited hardy flowers in vases. Many well known hardy shrubs were included—*Azaleas*, *Rhododendrons*, *Vacciniums*, *Choisya ternata*, *Ribes*, *Ledums*, deciduous *Magnolias*, *Judas Tree*, *Viburnum*, &c.

Messrs. A. W. Young and Co., Stevenage, Herts, exhibited hardy plants in variety, including several beautiful *Violas*, dwarf *Phloxes*, *Tulips*, *Irises*, *Anemones*, *Cacti*, &c. *Lobelia Distinction* (Holmesdale variety) was also sent by Messrs. Young. This exhibit was very well arranged.

Late *Tulips* were very showy from Messrs. Barr, conspicuous amongst these being *T. elegans alba*, *Fulgens*, and the var. *E. variegata*, *Vitellina*, *billetiana* *Sunset*, *Picotee*, and the curious green *Tulip Viridiflora*; also many beautiful varieties of the *Darwin Tulips*. There were also in evidence such subjects as *Camassias*, *Anemones*, *Gladioli*, &c.

Messrs. Hugh Low and Co., Enfield, showed a splendid group of *Carnations*. Included were *Mrs. Martin R. Smith*, deep pink; *Sir Charles Freemantle*, deep salmon-red; *Mrs. T. W. Lawson*, deep rose-pink, with a slight bluish tinge; *Iolanthe*, &c.

Messrs. B. S. Williams and Son, Holloway, N., exhibited a collection of cut flowers, amongst which were beautiful *Tulips* in variety, *Spanish Irises*, *Narcissi*, *Gladiolas*, *Ixias*, &c., making an excellent display.

Mr. W. J. Godfrey, Exmouth, Devon, showed baskets of fancy *Pelargoniums*, very well grown. *Emmanuel Lias*, *President Faure*, and *Wilfred Godfrey* were the varieties staged. A new scented perpetual flowering *Tropæolum* *Exmouth Glory* was also shown by Mr. Godfrey.

Mr. W. R. Newport, F.R.H.S., seedsman-florist, Hillingdon Heath, Uxbridge, sent *Lobelia Newport's Model* (Royal Purple Distinction), a free-flowering variety, and a true purple with a white eye.

Messrs. Storrie and Storrie exhibited *Auriculas* in pots, *Polyanthas*, &c., nicely arranged in upright masses, *Ferns* and other foliage being made use of. *Storrie's Giant Cowslip* was shown in vases. The *Polyanthas* included *Fair Maid of Perth*, *Bonnie Dundee*, *Crimson Beam*, *Orange Prince*, while amongst the *Auriculas* were *Victoria*, *Uranus*, *Osiris*, *Zeus*, and several excellent seedlings.

Sweet Peas were well shown by Mr. Robert Sydenham, Tenby Street, Birmingham. They were very tastefully arranged in vases with *Ferns* and *Grasses* intermixed. *Gorgeous*, a rich salmon, *Navy blue*; *Lady Grisel Hamilton*, pale blue; *Her Majesty*, deep rose; *Emily Henderson*, white; *Lovely*, delicate pink, were a few of the best.

Calla Pride of the Congo was shown by Mr. S. Bide, Alma Nursery, Farnham, Surrey. The foliage is similar to that of *R. elliotiana*, the spathes being a beautiful sulphur-yellow colour.

Mr. Edward Davis, Pansy grower, West Dene, Beech Alton, Hants, sent a collection of *Pansies*, many being beautiful varieties.

C. E. Heath, Esq., Kitlands, Holmewood, Surrey (gardener, Mr. W. Edwards), showed *Rhododendron Falconeri*.

Mr. Paul Erselwis, Church Lane Nursery, Romford, Essex, sent *Petunia Charlotte*, a large double white.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, showed their beautiful new *Schizanthus*

(*S. Wisetonensis*). The plants were one mass of flower, and the colour of the flowers varies from pink and white to chocolate-brown.

Messrs. William Paul and Son, Waltham Cross, Herts, showed a splendid collection of Lilacs—Mme. Lemoine, double white; alba grandiflora, single; Souv. de Louis Spæth, deep purple; Ville de Troyes, pale lilac.

Mr. William Sydenham, Tamworth, made a representative display of Violas, including many of the best varieties. Messrs. Jones and Sons, Sweet Pea and Dahlia specialists, Shrewsbury, showed the former flowers in excellent form. They were well arranged, small pot Ferns as a ground work showing them to advantage.

Messrs. Kelway and Son, Langport, Somerset, had a magnificent lot of tree Peonies, both in pots and cut blooms. Some of the best varieties were Lord Selborne, Captain Lambton, white; Lady Sarah Wilson, white lilac centre; Mr. Bancroft, a beautiful flower, rich pink; General French, cherry red; Miss Beatrice Jones, pure white, slightly tinged with pale purple in the centre.

Messrs. John Laing and Sons, Forest Hill, S.E., arranged a fine collection of tuberous Begonias, furnished on the one side by *Streptocarpus*, and on the other side by *Gloxinias*. These various classes of plants were well represented, all bearing evidence of the best of culture.

Mr. Drost, Kew Nurseries, Richmond, exhibited a group of well grown *Lilium longiflorum*, nicely set up with the addition of Palms, &c. C. Aubrey Watts, Esq., 30, Mark Lane, E.C., showed an interesting collection of Roses, and S. H. Lane, Esq., Worton Manor, Isleworth, sent a splendid plant of *Calceolaria*.

Messrs. T. S. Ware, Limited, Feltham, Middlesex, had a very fine display of tuberous Begonias, several of which obtained awards of merit. Particularly good were Mrs. Robert Sadler, pale salmon, edged red; Lord Kitchener, deep red; Jubilee Beauty, white centre, salmon border; Sir Thomas Acland, glowing scarlet; Mr. Henry Clark (award of merit), rich scarlet; Mrs. W. G. Valentine (award of merit), pale sulphur; imbricata, deep rose-salmon, edged white.

Mr. G. W. Piper, Uckfield, Sussex, showed his

beautiful Rose Sunrise, arranged with its own pleasing foliage. The new H. T. Liberty was also well shown here; others noticed being *wichuriana* variegata, Bridesmaid, Kaiserin Augusta Victoria, The Bride, &c.

Mr. John R. Box, West Wickham, Croydon, arranged a very creditable lot of *Calceolarias*, all well grown plants and comprising many beautiful colours.

Messrs. Cannell and Sons, Swanley, Kent, showed their new bedding *Pelargonium*, King Edward VII., a sport from Henry Jacoby, rather lighter in colour, and bearing a larger truss of bloom. Cactaceous plants were also exhibited by Messrs. Cannell, and Cannas in great variety. These were splendid, and included Mme. Camille, yellow ground, splashed with red; Jean Tiscot, salmon-red; Amy Chantin, brick red; Fol. Berthine Brunnet, a beautiful yellow, lightly spotted with red.

The Right Hon. Lord Rothschild, Tring Park, Tring (gardener, Mr. E. Hill), arranged a wonderful display of Moss Roses. The centre of the table was filled with Henri Martin, a deep rose-purple, the common Moss Rose and Reine Blanche surrounding it.

Messrs. R. and G. Cuthbert, Southgate, N., contributed a magnificent array of deciduous Azaleas, Ghent Azaleas, and the mollis and sinensis forms chiefly. They were smothered with flowers, and comprised most brilliant colours. Alphonse Lavallée, apricot orange, and Anthony Koster, a rich yellow, were two of the very best; other good ones were General Vetter, Mme. Anthony Koster, pale buff, shaded orange; Comte de Quincy, J. C. Van Thol, large flowers, bright rose-pink, and Admirable, pale apricot.

Messrs. Rivers and Son, Sawbridgeworth, exhibited as usual the fruit trees in pots, for which they are so justly famous. A new Peach (Duchess of York) was largely shown, and obtained an award of merit. Peach Prince Edward, Peach Duke of York, Cardinal Nectarine, Cherry May Duke, and other fruit trees in pots were included in this interesting display.

Messrs. George Jackman and Son, Woking, arranged a fine collection of trained Clematises, one specimen (Princess of Wales), of which we last week gave an illustration. Some of the best varieties were Fairy Queen, Countess of Lovelace, blue, double; Belle of Woking, double, pale blue; King Edward VII., a lovely new Clematis, blue, faintly tinged with rose and purple, Mme. Van Houtte, Clematis coccinea, &c.

Messrs. Paul and Son, Old Nurseries, Cheshunt, exhibited hardy flowers in great variety, including Lilacs, Rhododendrons, Euphorbia pilosa major, Genista pilosa, Exochorda Alberti, Tulips, such as Picotee, Gala Beauty, Isabella, Parrot, &c.

Mr. Leonard J. Ching, Crescent Nurseries, Enfield, N., showed a group of Ferns very prettily arranged. Large plants of *Aspleniums*, *Phlebodiums*, *Pterises*, *Davallias*, and *Adiantums* made an effective background, smaller Ferns providing a foreground.

Mrs. Hart, Fairlawn, Totteridge, Herts, contributed an interesting collection of Japanese dwarf trees. Several Cedars were over 100 years old; *Thuja obtusa aurea* 150 years; Larches trained in various forms, and grafted Maples were also represented.

Messrs. James Veitch and Sons, Limited, Chelsea, had a splendid exhibit of hardy ornamental flowering shrubs. In the centre were fine plants of *Rhododendron Sigismund Rucker* (intense crimson), and *R. Marchioness of Lansdowne*. *Hydrangea stellata fimbriata*, *H. hortensis mandschurica*, *Viburnum plicatum*, *V. macrocephalum*, standard *Wistarias* (blue and white), *Cytisus schipkænsis*, *Pæonies*, *Azaleas*

mollis × *sinensis* hybrids were also noticeable in this representative collection.

Messrs. Watkins and Simpson, 12, Tavistock Street, Covent Garden, W.C., showed a group of *Lantanas* and *Nasturtium Queen of Tom Thumbs*, variegated foliage and deep crimson flowers.

NEW AND RARE PLANTS.

NEW ORCHIDS.

LELIO-CATTLEYA EDGAR WIGAN.—This is a large and beautiful flower, the sepals and petals being tinged throughout with bluish lilac; the typical fringed digbyana lip is a deep rose-lilac towards the edge, the throat being paler and having faint yellow markings also. This remarkably fine flower was exhibited by Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. Young). First-class certificate.

ODONTOGLOSSUM WILCKEANUM GOLDEN QUEEN.—To this splendid example a first-class certificate and a cultural commendation were awarded. The raceme exhibited bore no less than twenty flowers. These were large, of a cream ground colour, with pale chocolate spots and blotches on the petals and sepals. From W. Thompson, Esq., Walton Grange, Stone, Staffs (gardener, Mr. W. Stevens).

ODONTOGLOSSUM CRISPUM ANNIE.—A large, handsome flower; the petals and sepals of a lilac colour are spotted with chocolate and margined with white. Exhibited by H. T. Pitt, Esq., Rosslyn Gardens, Stamford Hill, N. (gardener, Mr. T. W. Thurgood). First-class certificate.

LELIO-CATTLEYA IVERNIA.—This is a hybrid between *L. C. callistoglossa* and *L. tenebrosa*, of a beautiful and soft colouring. The long, waved sepals and petals are shaded rose-lilac, and the lip is an intense crimson-purple, shading to a lighter tint towards the margin. Exhibited by Messrs. Charlesworth and Co., Heaton, Bradford. Award of merit.

ODONTOGLOSSUM CRISPUM CAPTAIN HOCKER.—A beautiful form of *O. crispum*; the petals are well formed, with a pure white ground, heavily and uniformly spotted with lilac-red. Exhibited by M. Fl. Cles, 55, Rue des Champs, Brussels. Award of merit.

ODONTOGLOSSUM ADRIANE LINDENE.—A charming little flower, the lower sepals heavily marked with crimson-chocolate; in fact, they are almost of this colour. The petals and upper sepal are of a white ground also, largely marked with crimson-red. Exhibited by J. Leeman, Esq., Heaton Mersey (gardener, Mr. A. Edge). Award of merit.

ODONTOGLOSSUM CRISPUM THE NIZAM.—This is a handsome flower; the petals are margined white, inside this margin the ground colour is of a suffused blue, and marked with pale chocolate-red. The flowers are also of good size. Exhibited by J. Leeman, Esq. (gardener, Mr. A. Edge). Award of merit.

CATTLEYA MENDELII GIANTEA.—The petals and sepals are faintly suffused throughout with a bluish-pink; the fringed lip is of a beautiful form, the edge being delicately lined with rose-lilac; the throat is marked with yellow and lilac-red. Exhibited by H. Little, Esq., Baronshall, East Twickenham (gardener, Mr. A. Howard). Award of merit.

ODONTOGLOSSUM CRISPUM ABNER HASSALL.—This charming flower has a pure white ground, marked with large blotches of chocolate-red on the sepals and petals. Exhibited by Messrs. Stanley, Ashton, and Co., Southgate, N. Award of merit.

CATTLEYA MOSSIE DULCIS.—This is a splendid flower of a rose tint; the lip is remarkably beautiful, rose-crimson towards the front, and a rich orange above. Exhibited by Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gardener, Mr. W. H. Young). Award of merit.

CATTLEYA MENDELII MRS. ROBERT TUNSTALL.—This variety was exhibited by Messrs. Hugh Low and Co., Bush Hill Park Nursery, Enfield. It is a beautiful flower, of so faint colouring as to be almost white, the lip being marked with a rich red blotch in the centre. Award of merit.

CYPRIPEDIUM GUTTATUM.—H. J. Elwes, Esq., Colesbourne, Gloucester, exhibited this pretty little hardy Lady's Slipper, collected by him in the Altai Mountains in 1898. Botanical certificate.

NEW FRUITS.

PEACH DUCHESS OF YORK.—This is a new Peach of medium size, of a pale yellow colour, tinged with red on the sunny side. It should prove to be useful as an early Peach. The pot trees exhibited by Messrs. Rivers, of Sawbridgeworth, were bearing well. Award of merit.

CUCUMBER FAMOUS.—Obtained from a cross between Daniel's Duke of Edinburgh and Telegraph. The fruit is large, a very dark green in colour, and carries a beautiful bloom. From the stems exhibited it is evidently a good bearer. Sent by Mr. S. Mortimer, Farnham, Surrey. Award of merit.

MISCELLANEOUS PLANTS.

The following were granted the award of merit at the Temple show:—

SWAINSONIA MCCULLOCKI.—Those who recall the old *S. galegifolia* alba, with its pretty if small white Pea-shaped flowers, will readily see in this a useful addition to good flowering plants. The present species is in many ways distinct—in the colour, which is of a brown-chestnut or crimson shade, and in the size and showiness of the flowers, that in some degree resemble a small *Clinanthus*. The flowers are six to ten in a raceme, crimson-brown and nearly black at the base, with white centre. The slightly downy ovate leaves are oppositely arranged in pairs, six pairs in all forming the blade. The plant was shown by Messrs. Low and Co., Enfield.

ANDROSACE CHUMIYENSE.—Perhaps of all *Androsaces* this is the finest and the most worthy of cultivation. It is, indeed, an ideal rock garden plant, as easily grown as *A. sarmentosa* (which we believe is one of its parents), and producing a mass of the richest rose-coloured flowers that



AZALEA MOLLIS ALPHONSE LAVALLÉE.

(Shown by Messrs. R. and G. Cuthbert at the Temple Show.)

defy description. It is curious that this very plant, when exhibited at the Temple show last year in much finer condition than now was not given any award. Of course, the plant may not then have been entered for certificate. The plant was shown by Messrs. Veitch, of Exeter, and by the Guildford Hardy Plant Company.

LEUCOCORIUM MONTANUM.—A sweet and fascinating Californian bulbous plant, with flowers of the purest white appearing with considerable freedom from tufts of pale green linear leaves. The plant belongs to the Lily family, and is one of the rare things in this group. It is a miniature subject, not more than 4 inches high, but the exquisite purity and freedom of the flowers are most telling when seen in such good condition. The plant came from Mr. Amos Perry, Winchmore Hill.

LITHOSPERMUM CANESCENS.—Blue in some shade or other would appear a characteristic of this genera, yet the present plant, which is of bushy habit, is crowded with flowers of a rich golden orange. It is, indeed, a striking plant, and was shown in capital form by Mr. A. Perry, Winchmore Hill.

TULIP LA TULIP NOIRE.—This is the finest black self-coloured Tulip we have yet seen. It is glistening in its blackness, and the flowers are large and well formed. Shown by Messrs. Hogg and Robertson, Dublin.

TULIP ANNIE MCGREGOR.—A self-coloured breeder kind of the finest form, rose-scarlet in colour. From Messrs. Barr and Sons, Covent Garden.

TULIP DR. HARDY.—Also from Messrs. Barr. This was shown in its broken or flamed stage, the feathered petals being marked with crimson-brown. A handsome variety.

TULIP VAN POORTVLEIT.—Another of the Rose breeder section, the colours rose or salmon-scarlet, with lilac centre. From Messrs. Barr and Sons.

TULIPA MAURIANA.—This is a fine scarlet, with base of golden yellow and rather pointed petals. From Messrs. Wallace and Co., Colchester.

TULIPA IXIODES.—A form of the well-known Gesner Tulip, and, by reason of the combined colouring in the flower, well named. The principal colour is a cream-yellow, and with the intense, almost black, base makes a rather distinct combination. The variety was shown by Messrs. Hogg and Robertson and Mr. B. Hartland.

TULIPA BATALIANA SUNRISE.—This, without exception, is the most fascinating of all new varieties of Tulip. The soft pale yellow or primrose-yellow of the type, with its long pointed petals, is well known, but in the variety Sunrise we find shades and combined shades as beautiful and varied as in the new Tea Rose bearing the same name. Internally a sort of salmon-rose mingles with scarlet and buff and yellow underlaid, with rosy buff to the margin. It is a beautiful flower that description is all too inadequate to define. From Messrs. Hogg and Robertson.

BEGONIA QUEEN ALEXANDRA.—A very fine double kind, the flowers very large, soft salmon in colour, flushed and edged with bright scarlet.

BEGONIA MRS. W. G. VALENTINE.—Also a double kind, the flowers very fine and of a full cream tone, the edges of the outer petals prettily undulated.

BEGONIA MRS. HENRY CLARK.—A magnificent double sort, that carries size and freedom unmistakably. We counted a dozen handsome flowers fully open, and the entire plant but a foot high. The colour is intense orange scarlet, the foliage distinctly long and attenuated. This fine trio of double tuberous Begonias all came from Messrs. T. S. Ware, Limited, Feltham.

CARNATION SIR ELLIOT MACDONALD.—A tree, or perpetual kind, with large, well-formed white flowers striped with scarlet. From Messrs. Cutbush and Sons, Highgate.

ROSE LEUCHSTER.—A single-flowered variety of the Polyantha section, the colour rose-crimson, with nearly white base. It is apparently a good climbing sort and a profuse bloomer. The flowers are of medium size. From Messrs. William Paul and Son, Waltham Cross, and Messrs. George Paul and Son, Old Nurseries, Cheshunt.

ROSE SOLEIL D'OR.—This is a hybrid obtained from the crossing of Persian Yellow and Antoine Ducher. The flowers are some 4 inches or 5 inches across, double, and full, salmon-rose in colour, with salmon and yellow shades towards the centre. The foliage partakes of the Briar in appearance, the result doubtless of the influence of the first-named of the parents. It is a charming and distinct Rose. From Messrs. Paul and Son, Waltham Cross.

PEONY CHRISTINE KELWAY.—A very fine semi-double kind of the P. arborea section. The flowers are of fine proportions and the purest white. From Messrs. Kelway and Son, Langport.

HIPPEASTRUM LOIS.—A very fine and well-proportioned flower, the sepals massive and well rounded, while the colour is clear and well defined. The ground colour is white, netted, and veined with scarlet, and broad, central white bands very clearly set. The netting over the white ground colour is exceptional in its clearness. This fine form was shown by Captain Holford, Westonbirt, Gloucestershire (gardener, Mr. A. Chapman).

from the Vines to the plant houses, Codiaums (Crotons), Pandanus Veitchi, and Dracæna are represented by thousands. Palms of all sorts and sizes may be seen, from the stately monsters, touching the roofs of the houses especially erected for their accommodation, to the miniature seedlings just germinating in their seed beds. To illustrate the extent of the Palm trade some idea can be formed from the fact that 60,000 *Latania borbonica* are annually distributed, while there are more than double the number of *Kentias*. The *Araucarias* are remarkable examples of good culture. Ferns, naturally, occupy extensive areas.

RETARDING PLANTS.

The cut flower department.—Those who regularly attend the Drill Hall meetings of the Royal Horticultural Society will have seen illustrations of the results of "retarding" flowers so extensively practised here. I may be allowed, perhaps, to state that four extensive chambers are packed full of *Liliums* of all descriptions that are useful for cut flower purposes, *Lily of the Valley* by the million, *Spiræa*, and other species of flowers suitable for cutting. The vegetables are not overlooked, for there is a good stock of *Seakale*. Last year was the first experiment in this way. I procured some of the roots from Mr. Rochford in July, August, and September, and they proved in every way satisfactory. These chambers are each kept at about 6° below freezing point, so that the soil in which the different things are placed is frozen through and quite hard. I could not resist the temptation offered to enter the "snow chamber."

Here the thermometer stood at 60° below the freezing point. One's clothes were frozen stiff immediately, while the chilling sensation running through one's limbs is indescribable. A considerable time elapsed before I lost the effects of it, even when walking through the forcing houses.

THE LILIES OF THE VALLEY.

Lily of the Valley flowers are one of the greatest features of the cut flower trade. Several houses, specially arranged, are set apart for their culture, and the system followed of starting them in darkened compartments and gradually exposing to the light, when the bells begin to expand, is undoubtedly the best means of procuring the finest spikes. Three grades are grown, but the best are unquestionably the most satisfactory crowns to deal with. Roses also claim special attention, and among the many well-known and best tried kinds I noted an excellent stock of the new *Liberty*. Its lasting colour, Mr. Rochford considers, will make it one of the most useful Roses for general work. It is being worked in thousands, so that it will soon be placed within the reach of all. *Lilium Harrisii*, *L. longifolium*, *L. speciosum*, and *L. s. Kratzeri*, *Spiræas*, and other plants useful for cutting were innumerable and in the highest perfection.

THE ORCHID HOUSES.

These are among the most recent introductions, and were originally taken up for cut flower purposes. Several large houses were built for their culture. The large ones are on one side while the smaller ones run on the other side of an extensive span-roofed house, forming a corridor. This structure is filled with *Cypripedium insigne*. The large houses, some 150 feet to 200 feet in length, are occupied principally with *Cattleyas* and *Lælias*. *C. Schroderæ* was one of the most prominent species in flower at the time of my visit. I noted its lovely pure white varieties among them. *C. Mossiæ* and *C. Mendeli* were just commencing to expand their flowers.

These are grown in thousands. In one of the houses the roof is almost entirely covered with *C. aurea* and *C. Warscewiczii* (Gigas), mostly unflowered. *Phalanopsis* are also well grown. *Oncidiums* are also useful for cutting, and most of the Orchid species are extensively represented. The *Cypripediums*, especially *C. spicerianum*, finds favour. At the side of one of these houses I noted several plants of *C. callosum Sanderae*, *C. insigne Sanderae*, *C. lawrenceanum hycanum*, and other novelties. Mentioning these in particular will remove the impression which generally exists that Mr. Rochford grows for cut flowers and wholesale work only. This is quite a mistake. Those who visited the Drill Hall on April 23 last will remember the gold medal group of *Odontoglossum crispum* exhibited by Mr. Rochford. Twelve long houses are set apart for the culture of *Odontoglossums*. They contain 100,000 plants, and at the time of my visit about one-tenth of these were in spike or flower. These plants have been collected by Mr. J. Carder, and are, in most cases, flowering for the first time in this country. It is not surprising that many novelties and highly-prized plants are appearing among them, two of the most distinct being *O. crispum xanthotes* (Queen Alexandra), a pure white variety except some lemon-yellow spots on the lip, and *O. c. King Edward VII.*, a lovely rose-tinted, finely-spotted kind, that will improve with culture. *Sophranites grandiflora*, from the roof, blended admirably with the lighter racemes of *Odontoglossum*. The Orchids are in a most satisfactory condition throughout.

The employees are not overlooked in the bustle of such an extensive business. The institute has a fine library, in addition to "The Club" accommodation to be obtained by its members, and every consideration has been paid to render comfort and recreation after the toils of the day. Mr. Rochford is to be congratulated on the goodwill that everywhere exists in the different branches of such an enormous establishment. H. J. C.

**** Secretaries of societies are invited to send notes of meetings, exhibitions, and forthcoming events. We shall welcome also notices of gardening appointments.*



ROSE MRS. J. LAING.

(Exhibited by Messrs. George Paul and Son at the Temple Show.)

NURSERY GARDENS.

MR. ROCHFORD'S NURSERIES.

THE TURNFORD HALL NURSERIES are situated about half-way between Cheshunt and Broxbourne, on the Great Eastern Railway, and easily reached from Liverpool Street. Here is one of the horticultural sights of the world. Several acres are devoted to Vine culture, and the result of Mr. Rochford's skill is that no finer examples of fruit are placed before the public than those annually distributed from this wonderful place. Passing

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FLOWERING SHRUBS.

NOW that so many beautiful shrubs are in flower, and that many owners of country places are in London, let us remind them that an afternoon is most pleasantly and profitably spent in going to one of the good shrub nurseries, or, better still, to the gardens at Kew, note-book in hand, to see what are the best of these good garden ornaments, and which of them will best suit the needs of special gardens. For though branches of many a fine flowering shrub will have been seen at the Temple Show, yet a cut branch, although it may exhibit the beauty and form of the individual bloom, cannot show the thing as a living and growing whole.

Much of the beauty of such a lovely thing as the Japan flowering Apple (*Pyrus Malus floribunda*) is in the way of growth of the pretty little tree. The crimson bud and blushing bloom are charming when seen in any way, but far best on the tree, where the fling and the sway and the poise of it may be enjoyed, and all the little personal ways of the tree that go to make up its individual character and to give a sympathetic and almost human interest to its identity. *Forsythia suspensa*, one of the prettiest of flowering shrubs (now out of bloom), cannot be appreciated in a show, for to see it at its best one must look at it from below, growing high on some bank or terrace top, with its wide flung slender flower-laden boughs against the tender blue of an early April sky.

Now is the time to go and see the fine newer Lilacs, and to wonder at the rare beauty of the tree Pæonies, and to see hosts of good shrubs in flower, and the well-arranged rock gardens at the Royal Gardens, and even to feel a slight emotion of thankfulness towards the Editors of *THE GARDEN* for calling to mind the existence of all these good things, within such easy reach, and of a nature of such wholesome relief from the bustle and hurry of so-called pleasures of the London season.

COLOUR IN NEW VARIETIES OF PLANTS.

WE have had occasion to notice a new variety of *Aubrietia*, flowers of which were sent by a foreign firm of nurserymen, and were glad to give a pretty flower the praise it well deserves. In seedling *Aubrietias* we think selectors have been over-

much inclined to favour violence of purple and reddish purple, colourings which come readily in selected strains of *A. græca*. We think it well to point out that the type colour of *Aubrietia*, which is a more or less clear pale purple, is the best colour of all for this charming plant, and that the efforts of selectors would be in general best bestowed on fixing just the most beautiful tone of this colour.

The pinkish varieties are also pretty, such as the one raised by and bearing the name of Mr. Max Leichtlin, but there are poor, degenerate pinkish ones in between that are hardly worth garden space.

Among the purple or type coloured kinds, the efforts of raisers have clearly gone to deepening the purple, and they have resulted in some fine colourings that are undoubtedly strong and vivid, but that seem to go away from the central impression of the best possible beauty of the *Aubrietia*, which we hold to be a clear purple rather light than dark. There is still room for work among these lighter rather than darker colourings. A good plant well covered with bloom of fair size, fixed in a distinct pale tint, would be a great gain to gardens. White varieties are not wanted. A white *Aubrietia* would be so nearly like an *Arabis* that there would be no use for it.

The pretty flower we were glad to praise had in it a new element of beauty, namely, that of a more free outline of flower. The flower is large but refined, and the edge has a slight wave or movement that adds to its charm. The colour is pale and yet clear, with a rosy tint in the pale lilac that is distinctly pleasing. A flower of the same form in a cooler colour would be equally desirable.

We have to remember that the best use of the *Aubrietia* is in good stretches in our rock and wall gardens, where the clear light colourings are more suitable and more effective in combination with stony masses than the more violent of the purples.

LILIES IN KENT.

THIS spring I have carefully noted the dates of the appearance of the first spikes of my various Lilies above ground, thinking that perhaps a record, or rather series of records, of these dates might be useful in future, not only to myself, but to other Lily growers in the South of England. For I find it is one thing to cover your pet bulbs with a neat miniature mountain of cocoa fibre, or ashes, and another thing to find, in the course of a walk round on a bitterly cold spring day, that the first flower spikes are through the protective covering and

getting their tender noses frost-bitten. One is apt to forget that these lovely flowers of summer make their first appearance so early, and that they will probably require some sort of protection from frost, though their wants are remarkably modest, and a few evergreen branches will prove quite sufficient for them.

When planted among *Rhododendrons* or other evergreen shrubs, Lilies may possibly do very well without artificial shelter, but the British "north-easter" has a power (at any rate in Kent) that will despise and penetrate anything imperfect. I have used branches of common *Berberis Aquifolium* for my Lilies this spring; they are bushy and strong, last a long time, and make a model shelter.

My list of dates is as follows:—

Name of Lily.	Date of appearance.
<i>Lilium longiflorum</i> Takesima...	March 8
<i>L. auratum</i> platyphyllum ...	March 11
<i>L. speciosum</i> cruentum ...	March 17
<i>L. Henryi</i> ...	March 19
<i>L. Hansoni</i> ...	"
<i>L. speciosum</i> album <i>Kraetzerei</i> ...	March 25
<i>L. Brownii</i> ...	April 12
<i>L. excelsum</i> ...	April 13
<i>L. Parryi</i> ...	April 20
<i>L. Burbanki</i> ...	"
<i>L. szovitsianum</i> ...	April 28
<i>L. rubellum</i> ...	"
<i>L. canadense</i> ...	May 4
<i>L. Batemanniae</i> (planted this spring) ...	May 14

As far as can be judged at present Lilies seem to promise well for 1901, the growth being strong and healthy. I have very few species myself, as will be seen from my list, and not much experience with the majority of these; but I am deeply interested in their culture, and consider no trouble too great to ensure success with them.

I wrote in *THE GARDEN* of November 17, 1900, an account of my experiences with *Lilium Parryi*. Six bulbs from Mr. Karl Purdy, of California, produced an equal number of stems (in their second year), bearing altogether 105 flowers; one stem carried no less than 39. This year these bulbs have sent up twelve stems, besides a bunch of smaller off-sets, some of which may flower, while the small peat bed where they grow is studded with tiny seedlings, the result of my having scattered some of the seed last autumn. It remains to be seen whether the aggregate of flowers will come up to that of 1900, but the stems seem fairly strong, and I have great hopes. I have already given the peat bed a goodly watering, which the Lilies seem to have appreciated. I feel sure that the reason of my success with this Lily last year (and this) is the thorough nature of the drainage below the soil of the bed, a depth of more than 1 foot of broken bricks and glass bottles, underneath 18 inches of peat, loam, and sand, and an occasional soaking with rain water during the growing season, which seem to agree with this beautiful Lily.

The other Lilies I mentioned in the article

in THE GARDEN were *L. Burbanki* and *L. rubellum*. The former is flourishing, the two bulbs having sent up six good spikes between them, but I am sorry to say *L. rubellum* has resented its move to drier and shadier quarters, and only one spike has resulted from three bulbs. But I do not despair, knowing the fickle nature of the lovely flower and the surprises it has in store for its passionate admirers. For instance, in 1899 I planted two good bulbs of *L. Hansonii*, reputedly an easy Lily to grow, but in 1900 not a sign of them was visible above ground. This year two very promising spikes have appeared. The same thing happened with a bulb of *L. auratum platyphyllum*, which in 1899 produced a head of flowers of enormous size, considered worthy of a photograph. In 1900 not even a tiny offset rewarded me for my nice warm covering of cocoa fibre, and, believing the bulb to have joined the majority of Auratums, I planted a variegated Tree Mallow in its place. Fortunately, I just missed the poor bulb with my spade by a few inches, and now (1901) a strong thick Lily spike is showing its way through the Mallow, determined to stand no nonsense.

My other Auratums, all platyphyllums, are doing well, in their third year, but I do not count much on this. Did anybody ever succeed in establishing *L. auratum* except Mr. G. F. Wilson?

I have, unfortunately, not noted the first appearance of several other Lilies in my garden, such as *L. Kramerii*, *coridion*, *concolor*, *pomponium verum*, *tigrinum*, *thunbergianum*, &c., but the first three of these are not doing well with me, and will most probably die out shortly. Those of the *tigrinum* and *thunbergianum* kind are wonderfully healthy, but they are not difficult to grow.

My *L. candidum* suffered terribly from the "Lily disease" in 1899, so, acting on the advice of a gentleman (I think the head master of the Grammar School at Midhurst) who wrote on the subject to one of the gardening papers, I dug them all up in the autumn and gave them a good shaking up in a bag with flowers of sulphur, replanting them within 48 hours. The result was rather disconcerting, for the clumps averaged about one flower spike to every dozen bulbs in 1900, and the flowers were few in number. This year, however, each clump of about a dozen bulbs has from six to ten spikes, which look very promising, and I begin to think the disease has been arrested, perhaps extinguished altogether. It is, at any rate, a simple remedy, and worth a trial in the case of badly infested bulbs, for, whatever other Lilies we grow, we cannot afford to lose the chaste and beautiful Madonnas.

There is one other Lily, with the mention of which I will close my notes, the most reliable and one of the most glorious of them all, *L. Henryi*, that has fairly eclipsed itself here this year. I have but one bulb, but it has thrown up no less than nine spikes, and I verily believe that at least six of these mean blossom. Surely this is the Lily for all, and it is getting cheaper, fortunately. My bulb is in its third year, and has been steadily improving; it is in an exposed situation in a *Rhododendron* bed.

Yalding, Kent, May 19.

S. G. R.

NOTES OF THE WEEK.

Aubrietia Dr. Mules.—One is pleased to see the advance which has been made in raising new *Aubrietias* within recent years, and also to observe that these new varieties are becoming appreciated by growers of hardy flowers. Your reference to *A. Dr. Mules*, in THE GARDEN of May

25, page 367, is quite confirmed by my observation of it in bloom here, where its deep purple flowers show well hanging over a low rockery. Unfortunately, my plant is but a small one, so that one cannot expect to see this new *Aubrietia* at its best for a year or two, when it will have spread into a mass. There is, however, enough of it to show its fine colour, which quite justifies your remark that it is "undoubtedly the richest coloured *Aubrietia* we have yet seen." The fine purple is deeper and more intense than any other I know of, and one can readily understand how fine a large plant of it would look if associated with *Arabis*, the white *Phlox Nelsonii*, or the pretty *Hutchinsia alpina*.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Edraianthus serpyllifolius at Nunwick Hall, Cumberland.—Among the many pretty plants which I saw in the fine rock garden of Mr. Thompson, at Nunwick Hall, Cumberland, near the end of May was a fine clump of the pretty *E. serpyllifolius* (*Wahlenbergia serpyllifolia*) just coming into bloom. As a good many people know to their cost, some of these *Edraianthi* are not easy to grow everywhere, and Mr. W. A. Clark has wisely given some precise instructions about their cultivation in his useful little work "Alpine Plants." *E. serpyllifolius* is spoken of there as doing on a dry south bank, at the foot of a rock where it can spread over its surface. The large plant at Nunwick Hall is growing on a dry bank, but the exposure is not due south, and it has no rock to cover beside it. It is, however, thriving admirably, and one may usefully draw the attention of the many growers of alpine in the north who read THE GARDEN to a good plant grown where the place and soil suit it. The soil is light and sandy, and the altitude is about 300 feet above the sea.—S.

Papaver Ruporient.—We are coming fast to the time of the year when we shall have plenty of Poppies fluttering in our gardens, though one welcomes their coming gladly because of the beauty and brilliancy of so many of their number. The gorgeous blooms of *P. orientale* have not yet opened here, but the smaller and lighter coloured *P. rupifragum* has come into bloom. So, too, have the two hybrid Poppies I have here which own these two species for their parents. One, raised by Mr. E. C. Buxton, has been here for several years, but the other, *P. Ruporient*, which was, I believe, raised by Mr. H. G. Moon, is a later acquisition. Both have opened within a day or two of each other. Of the two, I think that Mr. Buxton's plant has the more shapely blooms, but *Ruporient* has not a trace on its petals of the black blotch of *P. orientale*, of which there is an almost invisible mark in Mr. Buxton's hybrid. Both show a white base, but *Ruporient* seems to have it a little larger than the other. If I recollect aright, this poppy reproduces itself true from seed, but Mr. Buxton's hybrid (for which I know no other name) never produces seeds. *Ruporient* seems rather more elegant in habit, and to partake in this respect more largely of the characteristics of *P. rupifragum*.—S. ARNOTT.

Edwardsia (Sophora) grandiflora.—We receive from Captain Daubuz from Ryde, Isle of Wight, a photograph of a remarkable specimen of *Edwardsia grandiflora* which must be some 20 feet high and is now bearing a large quantity of its fine yellow Pea-shaped bloom. It was raised from seed and planted by Captain Daubuz twenty-five years ago. It is quite a tree, the girth of the stem at a foot from the ground being 2½ inches. We much regret that the portrait of this fine specimen should have been unsuitable for reproduction. Though the name *Edwardsia* is commonly used for this beautiful small tree it is more properly *Sophora*. It flowers well in quite the most southern parts of our islands; it lives and grows well but is unwilling to flower an hour's journey south of London.

Vandas at The Woodlands.—Among the many fine Orchids at The Woodlands, a group of *Vandas tricolor* at the present time well deserves notice. Needless to say, poor varieties are not among them; all are of the best, and the *Vanda* house is a pretty picture. Two varieties stand pre-eminent, differing from each other and

most decidedly from the type. Both are probably unique, even in the early days of Orchid culture, when *Vanda tricolor* and its near ally *suavis* were largely grown and deservedly popular. Experts declare that varieties similar in colour were then unknown. The first, named *Woodlandsense*, forms long slightly pendent racemes of large shapely flowers. The broad sepals and petals have a ground colour of light yellow, almost white basally in each case, with a well-defined margin of rose, and the central areas ornamented with nearly confluent blotches of deep sepia brown, brightened with a tint of red. On the dorsal sepal the blotches are quite confluent except at the bases. The column, the sac-like spur and side lobes of the lip are cream-white shading to yellow, while the broad and large mid-lobe is of a dark puce-purple, except towards the base where a little yellow can be discerned. The second variety—*Robin Measures*—is of a yet more remarkable colour. The sepals and petals are bright cadmium yellow, almost covered except at the margins with blotches of a brilliant glossy shade of chestnut, toned with orange-red, a colour combination the effect of which is difficult to convey in words. The column, spur, and side lobes of the lip are deep yellow, the base of the lip striped with purple-red, and the mid-lobe, slightly smaller and more convex than in the variety *Woodlandsense*, is a light rose or lilac amethyst. This and the foregoing are certainly two of the finest varieties of *Vanda tricolor* yet known.

Pelargonium Eucharis.—This is a very distinct variety, the pure white flowers having a very slight marking of pink on the upper petals. Many of the flowers are quite white without the marking, the trusses having long stalks, and each flower also has a long stalk. This variety may be specially recommended for cutting, and it also makes a good plant. Where the flowers can be cut and used without packing in a close box it stands well, though it may be advisable to use a little clear gum which does not stain the flowers and ensures them against drooping under any circumstances.—H.

Hippeastrums at the Temple Show.—A most noteworthy exhibit at the Temple Show was the splendid group of *Hippeastrums* from Westonbirt, which attracted attention, not so much from their high quality (for the Westonbirt *Hippeastrums* have been long famous for this) as from the fact that they had been so successfully kept back, that in the latter half of May the entire group consisted of flowers as fresh and bright as did the plants composing Messrs. Veitch's magnificent collection when it was my privilege to see them at their best some five or six weeks previously. That the flowering period of these gorgeous plants can be extended over such a length of time will certainly enhance their popularity, for it was doubtless a revelation to many that they could be had in good condition at such a time. With the various means, however, now employed for the hastening or retarding of different subjects, the flowering period of many plants is now greatly extended to what it was formerly. The *Hippeastrum* being a tender plant, it cannot, of course, be kept dormant by means of refrigerators for an indefinite period as are some hardy bulbs. Only one variety in the above-mentioned group received an award of merit, but all composing it were really grand flowers. For popularising the *Hippeastrum* a good deal is also due to the Royal Gardens, Kew, particularly in directing attention to the fact that seedlings may be flowered in considerably less time than was formerly considered necessary.—H. P.

The prospects of stone fruit.—According to the unwritten law of growers, we cannot reasonably expect any Plums and Damsons this year after the tremendous crop of last season, and it seems as though the rule is to hold good. In most parts of Kent there was a good bloom, and some trees were sheets of blossom. Hopes ran high, and there seemed a chance of the rule presenting an exception. The flowers have now gone, and a close examination of my own trees and those of my neighbours show withered stalks where there ought to be swelling fruits. It is too

early to prophecy with safety, and we may get a crop, but certainly there will not be the glut of last year. This may not be altogether regretted by market growers, as I know one farmer who estimated that he allowed fifty tons of Damsons to fall to the ground because they would not pay for the picking. Pests are in evidence, and colonies of lackey moth caterpillars are busy defoliating the shoots.—G. H. H.

Beauty in hedgerows.—Perhaps the rough, untidy hedgerow is the most beautiful at this time of the year, when the great Hawthorn bushes are wreathed with blossom, Wild Roses showing their buds, and the wild flowers form a natural garden beneath. But the sign of good farming is a neatly trimmed hedge, with ditches cleaned out, and no waste of ground on either side. With the neatest of hedges, however, there is room for beauty, and a farmer of my acquaintance

occasions that he cultivates with marked success. These plants have shown one of the best results of the graft, namely, the rendering of *Clianthus Dampieri* more robust and making it flower in midwinter. This is not an exceptional instance, for we were able to see at the same time (March) plants grafted almost identically and flowering in the nursery of M. Vilmorin at Verrières. The good growth of the plant, and still more its uninterrupted flowering season, are new and excellent examples of the happy influence of stock upon scion. *Colutea* (*Sutherlandia*) *frutescens* has until now been the principal stock for this graft, although *Colutea arborescens* is preferable; this was made use of by M. Micheli in obtaining the plants of which we have spoken. The physical difference (from a cultural point of view) between these two *Coluteas* is sufficient to show the advantage gained in using *C. arborescens*,

for *C. frutescens* requires much heat, and, being difficult to winter, is usually treated as an annual. *C. arborescens* is a shrub perfectly hardy and quite common in gardens. Although the union and initial development of the grafts are practically alike in both, those grafted upon *C. arborescens* eventually acquire more vigour, and, above all, more hardiness, which is no doubt owing to the hardy nature of the latter. *Clianthus Dampieri* also succeeds well when grafted upon *Clianthus puniceus*; this method of grafting has yet been but little practised, except in Germany; so far as we are aware it merits further trial. From what has been said it follows that those who have grafted *Clianthus Dampieri* upon *C. frutescens* need not search elsewhere for the cause of the small success of their experiment, and it is certain that *C. arborescens* should be employed as a stock for this plant. We would add that the graft, though apparently very delicate, since one operates upon plantlets no thicker than a piece of string, does not require much dexterity in the making, for the union is so easy that it is not even necessary to tie the stock and scion

together, they will all, or nearly all, take if kept close under a handlight, greenhouse, or even on a mild hot bed. Plants that are well established may be cultivated throughout the summer under handlights, and during the winter kept in a cool house. The flowering season begins in the autumn, and continues during the winter and spring. We would strongly advise amateurs to cultivate *Clianthus Dampieri*, for besides the real beauty of its flowers they will find in the grafting of it and the lesson it teaches a work full of attraction.—S. MOFFET, in *Le Jardin*.

Seedling *Lilium szovitzianum*.—Many years ago a bed of seedling *L. szovitzianum* were so happy under an Apple tree at Oakwood that we made a similar bed there. The Lilies thrive so well and get a little support. I can recommend this mode of planting.—GEORGE F. WILSON, *Heatherbank, Weybridge Heath*.

New Deutzias.—Conspicuous among the many beautiful and interesting plants composing Messrs. Veitch's group of hardy flowering shrubs at the recent Temple Show were two of the hybrid Deutzias raised by M. Lemoine of Nancy, both of which promise to become popular garden plants, not only for the open ground but also for flowering under glass, and in this way used for the embellishment of the greenhouse or conservatory. One of those shown—*D. kalmiaeflora*—was obtained by the intercrossing of the little-known *D. discolor purpurascens* and *D. parviflora*. It forms a freely-branched bush, the flowers, which are borne in somewhat flattened corymbs, being rounder than those of most Deutzias (hence the name of *kalmiaeflora*), and in colour pale blush, edged with a deeper tint. The second plant exhibited was *D. gracilis hybrida rosea*, obtained from *D. gracilis* fertilised with the pollen of *D. discolor purpurascens*. Both parents have left their mark on the progeny, which appears to be a more vigorous plant than *D. gracilis*, while the flowers are tinged with pink. The number of Deutzias for which we are indebted to M. Lemoine within the last few years is now considerable, but as far as my experience extends one of the best for flowering under glass is *D. Lemoinei*, though as a shrub in the open ground the flowers do not always open well.—T.

Mr. Thomas Meehan.—The *Canadian Horticulturist* for May contains a portrait and short personal account of this celebrated nurseryman and botanist. Born in England in 1826, he is one of the oldest living members of the American Association for the Advancement of Science, and was elected to membership of the Royal Wernerian Society of Edinburgh before he was of age, an unusual honour for one so young. Mr. Meehan is head of the firm that publishes *Meehan's Monthly*.

Wet weather Roses.—A number of varieties of Roses may with truth be called wet weather Roses; but several give much better results than others. One of the very best in such a season as this is *Christine du Neve*, as it is a vigorous grower. The flowers are full and finely shaped, stand up erect, colour deep rose, shading to crimson in the outer petals, and their fragrance is deliciously sweet. Mrs. John Laing is another wet weather Rose, as also is Mrs. Sharman Crawford. These are both pink, and are not affected by constant rains.—*The Austral Cultivator*.

Planting for immediate effect.—

Where immediate results are desired the general effect of a border of hardy perennials may easily be secured with annuals. For the tallest growths use *Ricinus zanzibarensis*, Sunflowers, Cannas that make tall growth, Salvias, and Dahlias; for somewhat lower plants African Marigolds, the taller Asters, Plumbago, Marguerites, French Cannas, small Sunflowers, annual Larkspur, Heliotrope, Scabiosa, Geraniums, Zinnias, &c.; for still lower French Marigolds, Stock, Mignonette, Ageratum, *Vinca alba* and *V. rosea*, and both dwarf and climbing Nasturtiums; and for ground covering between the taller plants Pansies, Verbenas, and Alyssum. Borders that are partly filled with either shrubs or hardy perennials will be greatly improved by the addition of some of these annuals, most of which may be grown from seed sown in the ground after danger of frost is passed, but a few of which must be started early in greenhouses or hot beds to ensure flowers the first season. Small plants of these varieties are sold by all florists at about ten cents each in the early summer. The varieties to be started early are Marguerites (both white and yellow Daisies will flower all summer), Cannas, Ageratum, Heliotrope, Geraniums, Vincas, Salvias, Pansies, Plumbago capensis, and Dahlias.—F. C. S., in *Park and Cemetery*.

Primula gambleana.—Though the representatives of this family from the Himalaya are fairly numerous in gardens, an addition to their number should be cordially welcome. The present species is closely allied to *P. rotundifolia*, with the same orbicular cordate leaves, but is a smaller plant and produces fewer but larger flowers. These are of a lovely purple colour with a yellow eye, the lobes being rounded and emarginate. Dr. Watt, the author of the name, describes it as 6 inches high,



SEEDLING LILIUM SZOVITZIANUM.

who will not tolerate overgrown hedges has hit on a happy idea for introducing it. When trimming the hedges round the homestead a few years ago a straight growing thorn was allowed to extend here and there above the general level. On these were grafted double crimson, pink, and white Hawthorns, which have developed into good specimens. Yellow Laburnums growing here and there in the hedgerows give variety of colour, and the trees have a more pleasing effect. The example is worth following, and the flatness of many closely trimmed hedges might be broken by the presence of double Hawthorns rising up at intervals above the surface line.—G. H. H.

The grafting of *Clianthus Dampieri*.—M. Micheli, one of the promoters of the grafting of this beautiful leguminous plant, whose culture was until then almost impracticable, has shown grafted plants on different

growing as an epiphyte amongst fog, with very long red roots and large shining magenta flowers with a yellow mouth. Coming from a very high elevation—14,000 feet—it requires plenty of moisture and a shady position. Under these conditions a plant recently flowered at Kew.

M. Chatin's successor at the Académie des Sciences.—M. Zeiller, Professor at l'École des Mines, has been elected as a member of the Académie des Sciences, to replace M. Chatin, who died in January last. Thirty-five votes were given to M. Zeiller, as against twenty-two to M. Renauld.

Rosa hispida.—Although this interesting little Rose has been in cultivation over 100 years it is found only in a few gardens at the present day. But it deserves more attention, few early Roses being more beautiful. The tiny elongated yellow buds opening to a pale sulphur-yellow single flower are exceedingly pretty, and the wood, thickly covered with rather stiff hairs, from which it derives its specific name, gives the plant also a most unique appearance. All these early-flowering yellow and cream-coloured Roses should be secured for gardens of fair size, as apart from their beautiful colours they possess a hardiness which is to be envied, and, moreover, they are most amenable for cross breeding. We see in the new Soleil d'Or what is possible in this direction, and a race of hardy orange-coloured Roses seems to be near at hand if our hybridists will follow up their present achievements.—P.

Two early-flowering single Roses.—It is interesting to possess a Rose at the present day that is known to be some 300 years old, but such is the case with *R. alpina*. Being one of the earliest to flower it is doubly valuable on that account. I have known it unfold its lovely little blossoms as early as May 16, but this year it was a few days later. Although it is the parent of the very fast growing if uninteresting Boursault Roses, yet it is quite diminutive compared to the latter. *R. alpina* is much superior in colour to its offspring, its flowers being quite a bright rosy red. In early autumn the brilliant capsicum-like seed vessels make a pretty picture. The other variety that is always a favourite is *R. altaica*, the large-flowered single variety of *R. spinosissima* from Central Asia, whose pale lemon-white blossoms quite 2 inches across possess such a charm to the lover of single Roses. It is a more vigorous bush than *R. alpina*, so if planted together, which is a desirable way of locating them, *R. altaica* should be either in the background or centre of the bed.—P.

Decorative Pelargoniums.—Since the death of the Pelargonium Society growers have not paid so much attention to perfect form and regular markings, but those of the regal or decorative type, that is, the large crimped or undulated flowers of which Digby Grand was one of the first, have come to the front, and for general effect these have much to recommend them. The great merit is that they are of robust growth, with large trusses of distinct and bright colours. Of newer varieties Mrs. Manser and Mrs. A. Hemsley are good, the former a deep rosy pink with a dark blotch on upper petals and a light shade round the margins of the petals. Mrs. Hemsley has very large trusses of soft flesh pink flowers, and should make a good market variety. It seems strange that fashion should have an influence among flowers, but such is the case, and for the present Pelargoniums do not appear to be favoured. I heard a lady remark at the Temple show that it was a pity they were not fashionable for they were so beautiful. One of the great troubles with Pelargoniums has been that green fly has proved a great enemy, but now that we have such excellent materials for fumigating this trouble can easily be overcome. I find that with a little care the fly may be entirely eradicated, and this without causing all the open blooms to drop as was formerly the case.—H.

Irish fruit crop destroyed.—A Limerick correspondent reports that the storm of Thursday and Friday last, according to information from neighbouring counties, has all but completely destroyed the prospects of the fruit

crop in a large area of the south of Ireland. The crop was a promising one, the trees being loaded with blossom.

Dendrobium with 512 flowers.—I saw in THE GARDEN of May 25, page 377, an account of a plant of *Dendrobium nobile* with 217 flowers. I have one at present in flower with 71 spikes which are bearing 512 flowers. The plant is beautifully furnished all round.—R. HALL, Narrow Water, Warren Point, County Down.

Floral Gargoyles.—I am much pleased with the article on this subject in THE GARDEN, page 385, and hope it may do something towards putting an end to the hideous glass shades which now disfigure so many churchyards. I should like to strengthen your article by adding one point which you do not mention. It has been decided by authority that the placing of these hideous things in our churchyards is illegal, and it is so because nothing can be placed in a churchyard without the consent of the vicar or rector or ordinary. When therefore I see these things, like so many glass rat-traps, in a churchyard, I do not blame the undertaker or the tradesman, with whom it is a simple matter of business, but I do blame the clergyman who allows them. There are many such among the readers of THE GARDEN, and it rests with them to stop the nuisance. We pride ourselves on having got rid of the old horrors of scarves, hatbands, plumes, mutes, &c., but have we done better by substituting for them cartloads of bought wreaths, followed by the most hideous permanent display of false flowers that the art of man could devise?—HENRY N. ELLACOMBE, Bilton Vicarage, Gloucestershire.

Stunted products.—There seems to be nothing in nature, or in art, or even in humanity, that be it ever so abnormal, or deformed, or even ugly, that does not find admirers. How much in relation to vegetable life was that fact evidenced at the recent Temple show when large numbers of visitors, ladies especially, clustered round the groups of dwarfed, stunted, starved Japanese trees in pans and dishes, and regarded them with wonder and admiration. Admire as much as we may the industry, capacity, and enterprise of the Japanese, the Britisher of the Far East, yet it is impossible for any true gardener or lover of that which is true and beautiful in nature to admire these examples of born-not-to-grow trees and shrubs. That they excite wonder is not surprising, because it seems to many almost impossible that vegetation, especially as found in what are naturally noble trees, could thus be contracted, stunted, and made to be so puny. Very likely there were many onlookers, however, who wondered that any intelligent being should spend time and labour in so absurd a way on production of such wretched abortions. These things may for the moment be comparative novelties, but they will soon be relegated to the bonfire. They can serve no earthly use, except it be to act an awful object-lesson of how not to do things. There are few possessors who will not find them to be very shortly miniature white elephants. The topiary art is not much before the Japanese art of stunting vegetation, and in our practice of it and certain patronage of it, cannot throw stones at the Japanese. There is nothing in gardening more beautiful than is that which is most natural—there is nothing more offensive than is the grotesque or deformed.—A. D.

Single Scotch Roses.—The closing days of May generally usher in these lovely little Roses, and, if suitably placed, away from the gorgeous flowering shrubs that just now abound, their beauty is much appreciated. The majority of single Roses are produced on large, straggling bushes, but in this case the neat, compact habit lends additional attractiveness to the showy but fleeting blossom. One could wish it were possible to impart the persistent nature of the new Rambler Leuchtstern to the blossom of the single Scotch Roses, and I have hopes that this may yet be accomplished without altering their dwarf character. From a number of seedlings it is possible to pick out many good decided colours, but the majority will come white, so that it is the greatest economy of time to purchase bushes to

colour. These vary from lemon-yellow to buff and pink and from pale rose to rich rosy red, almost crimson. Some have quite a large white centre, giving the flower a most pleasing appearance. A single bush will in a short time become 3 feet or 4 feet thick, so that one can easily imagine the beauty of such a bush planted in a conspicuous position just like a huge ball of blossom. The earliness of the single Scotch Roses makes them invaluable, as does the autumnal flowering of the newer single Teas, providing the latter be hardy, of which at present there seems a doubt.—P.

Lewisia Tweediei.—This remarkably distinct species, figured in the last issue of THE GARDEN, is in more than one respect distinct from the well-known *L. rediviva* and the one or more others nearly allied to it though very rarely seen. The above species has been commented upon previously in THE GARDEN, and at the recent Temple show a good plant in flower was noted in the exhibit from Messrs. Barr and Sons. The smooth and fleshy, slightly glossy leaves are more or less ovate in outline, and not at all of the rush-like character of the old form, while the yellow-buff and rose-tinted flowers render it far away distinct from the better known species. Some two or three years ago Mr. A. E. Bulley kindly sent me a plant of the above rarity; it was then quite a novelty and only represented in one or two places. Unfortunately, my plant succumbed during the winter, while I believe Mr. Bulley's plants in the colder district of Cheshire were a success. I note the plant figured recently is from Mr. Wilson's garden; and what would interest many, doubtless, besides the writer, would be information respecting the perfect hardihood of this fine plant. I believe it is not quite hardy at Kew, and the fine group I noted there a year or two since had a fine position for a plant of doubtful hardiness. Perhaps Mr. Bulley will kindly say whether his plants still maintain their reputation for perfect hardihood; and if Mr. Wilson would also supplement this information with his experience of the plant, all interested will be much indebted. In so good and distinct a plant everything depends on its being able to endure our winters in the open. And the failure of my plant at the end of the first season is by no means conclusive evidence either way.—E. H. JENKINS, Hampton Hill.

Leucoerinum montanum.—This delightful little plant, so finely shown by Mr. Perry, Winchmore Hill, is not, strictly speaking, a bulbous plant, though to the casual observer it may be taken for such by the character of the growth above ground. Indeed, there is no present root enlargement, so to speak, that would even justify its being termed tuberous-rooted, and, therefore, it is the more remarkable that it is so free and so profuse in its flowering. What little there is of a root-stock may be likened to a very miniature Trillium, though even this does not correctly interpret the list of straight fleshy stem underground that constitutes the root-stock of this little gem. But from this root-stock are emitted numerous long, straight, Trillium-like rootlets that at once give the impression that the plant must be provided with a good depth of soil to allow such roots to descend. As the plant has been described as of bulbous character and a native of California, it is possible a wrong idea may be formed of its requirements. Given a deep rooting medium and a warm, half-sheltered position in loam and peat made quite sandy, this pretty plant should be a success in many gardens. The crowns, however, should not be too near the surface, or, if so, should receive protection in winter time. The number of its singularly pure and fragrant flowers is quite a feature in the plant. It belongs to Liliaceæ.—E. J.

Kniphofia rufa.—Near *K. laxiflora* this is the earliest species of the genus to flower, being in full beauty under a south wall at the beginning of May. The grass-like leaves are nearly 2 feet long, with smooth edges, these being overtopped by dense racemes of flowers borne in abundance on slender scapes. The buds are red at first and turn to yellow with age, and about 1½ inches long, the yellow stamens being exerted. It is a native of Natal.—W.

Rose Soleil d'Or.—This beautiful novelty was shown at the Temple show by Messrs. W. Paul and Son, of Waltham Cross, in their magnificent group of pot Roses, and deservedly received an award of merit. If it proves to be autumn flowering it will indeed become a most valuable variety. The bud and flower closely resemble in shape those of one of its parents Persian Yellow, but the intense orange-red of the half-open flowers is doubtless inherited from the pollen parent Antoine Ducher. That these old-fashioned garden Roses are capable of much improvement appears very evident, and it certainly will be matter for rejoicing if the very hardy nature of such Roses becomes infused into a perpetual flowering race. Judging from the acquisition of Soleil d'Or an orange-coloured *Harrisonii* will doubtless soon follow.

A favourite Cabbage in the North.—There is always a brisk demand in the northern markets for early Cabbage, and large quantities are sent from the Evesham and Pershore districts and others more south for the first supply. The varieties that find so much favour in our private gardens are little grown for the northern supply. Here size appears to be an important factor, and as is well known the early Ellams is not large. The other day I saw very large consignments in the Newcastle markets of the Early Rainham and Early Offenham, both very fine types, but having more outer leaves, and much larger than our first early kinds. The Early Offenham is much grown in the Evesham district, and commands a good price if sent to market early in May. All kinds were later this year, and growers in the North were lamenting the late season. The cold winds a few weeks ago inflicted much injury to their early crop, and caused a scarcity; indeed, I saw later breadths nearly as good as the earlier ones, so that a glut at one season is the result.—G. W. S.

Spring flowers at Alnwick Castle.—The flower gardens of the above ducal residence lend themselves charmingly to spring bedding, and summer bedding not being required early there is no hurry to clear away the spring bedders. Large breadths of Forget-me-nots and Arabis, with Wall-flowers, make a grand display. A liberal use is made of Aubrietias in their various colours, and these blend well with very fine strains of Polyanthus. The beds of Sutton's Giant White, edged with Aubrietia purpurea, are most telling, and the same remarks apply to the yellow Polyanthus, edged with a very deep crimson double Daisy. A plentiful use is made of all the free-flowering, old-fashioned spring flowers, large masses being arranged. I think the beds far more beautiful than any summer bedding. Early in the year Crocuses are plentiful; these form large broad and very bright edgings. Doubtless the spring bedding has a much better effect by having a mass of greenery in the background, many beds on rising ground being filled with evergreens.

Mulching Strawberries in the North.—When recently on a visit to the North I looked in at several well-known gardens and gathered a little information as to the best way of mulching the above fruits. Partially decayed manure or straw litter is objectionable, as without a good rainfall the material does not get cleansed. Another point is that in this part of the country the rainfall is greater than in the South, and litter in such cases becomes a harbour for slugs. I am aware that grass has been used many times and advocated in these pages, but short mown grass is very little better than litter. In these gardens I saw men mowing grass from 6 inches to 8 inches long. This was kept quite straight, and placed under the fruit was an excellent mulch, as when dry it is quite flat and clean, and cut before the seed is formed it is much cleaner than straw. There are other advantages; the labour is not great, and when the crop is cleared the mulch is soon removed with the runners. I noticed that the fruit in wet seasons did not decay so quickly on the mulch advised as on litter from stables.—VISITOR.

Doronicum Harpur-Crewe.—This is one of the most popular and beautiful of all hardy plants. It will thrive in almost any garden soil,

but best in one rich and deep, and may be used with the best results if planted in large clumps or in beds about 4 feet wide. The plants should never be allowed to remain more than three years in the same clump or bed or the flowers and foliage will deteriorate. They are best divided in the autumn. I find the end of October to be the best time, as plants will then get established before winter and make a grand display the following May and June. This plant is also one of the most useful for pots. Pot the plants up early in October, place them in a shady situation for a few days afterwards, and put them into a frame just to keep the frost from breaking the pots. Remove to a warm greenhouse as required, and the result will be flowers all through the winter months, and as spring advances there will be abundance of spikes of bloom which, when cut, will last a long time in water.—T. B. FIELD, *Ashwellthorpe Hall Gardens, Norwich.*

The Loganberry.—Amongst various new fruits which have been lately introduced into our gardens the Loganberry may be said to be the most valuable, for it is both hardy and prolific, producing in abundance fine fruit of remarkably good flavour. This plant is a hybrid between a red Raspberry and one of the finer varieties of Blackberry from America. The fruit is very much like an enormous Raspberry in appearance, but with a darker bloom and a longer shape, the flavour being specially luscious, and, at the same time, pleasantly sharp. It produces its fruit on the growths of the previous season in the same way as the Raspberry, and should be cultivated on much the same lines, cutting out the old wood yearly in autumn and training the long shoots, which are thrown up from the base in arches, by tying them to those of the next plant, which should be placed about 5 feet away. Rich mulching (with cow manure in a light soil) will enable the fruit to swell properly. This mulch should be laid down in March when the fresh growth begins, the fruit being produced in June, before the Raspberries are ripe. The thorns of the Blackberry are fortunately absent from its stems, which are covered with small red spines. The foliage is handsome and vigorous, and no blight appears to attack it. There is no doubt that this plant will be most popular when it is better known. It is, however, not possible to propagate it by seed, as this has a tendency to revert to the original parent types, so that it cannot be relied upon to produce the true Loganberry, which should be propagated by suckers in the same way as the Raspberry. Loganberries are not likely therefore to be too plentiful for some years, and all who can grow this delicious new fruit should not fail to plant it in October.—I. L. RICHMOND.

Bishop's Stortford summer show.—No horticultural society has a surer foundation than that of Bishop's Stortford, and the hon. secretary (Mr. William Smith), whose interest in his work has not flagged during the twenty-six years he has held office, sends the schedule of prizes for the present year. It is excellent in every respect. The exhibition takes place at The Grange, Bishop's Stortford (by permission of J. Barker, Esq., J.P.), on Wednesday, August 14 next.

A successful school of horticulture.—We are a conservative race at home, and the many pamphlets from America and our Colonies we receive are evidences of this, the report, for example, sent to us of the school of horticulture by Mr. C. Bogue Luffmann, showing that good work is accomplished. It is fast developing into an important institution, and is "designed for the teaching and training of 'orchardists,' gardeners, and managers of fruit-growing and small private estates. It is situated in a near suburb of Melbourne, and has a good tram and train service. The estate comprises upwards of 40 acres of varied land, of which 20 acres are at present devoted to fruit trees, vegetable culture, a nursery, and flower gardens. New stables, plant houses, frames, sheds, and other buildings have recently been erected. Class, dressing, luncheon, and work-rooms form portion of a large pavilion, wherein shelter and occupation are found in adverse weather. Classroom instruction is given in horticultural science,

vegetable pathology, botany, chemistry of soils and plants, physical and commercial geography, entomology, measuring, levelling, designing and plotting of homesteads, orchards, and garden areas, and the most approved methods of raising and managing fruit trees and plants. Practical work includes the propagation and management of orchard trees, Citrus, table Grapes, bush fruits; harvesting, storing, packing, marketing, drying and canning of fruit, vegetable culture, grading and trenching of land, management of soils, manures, drainage, water conservation and distribution, irrigation, villa gardening, and care of domestic animals." Some of the subjects are trivial, but the principle is a right one.

Japanese Maples.—I question whether we have any more useful foliage trees than these, and it is surprising that they are not more generally grown in small gardens to give that touch of colour so often wanted in borders and along the edges of shrubberies. The variety of colour is very wide, the silky character of the leaves beautiful, either in the spring, summer, or autumn, and the trees are quite hardy. The open garden is not their only place, for I have grown them in pots, and have found them to be extremely useful for conservatory and corridor decorations. No other plants give the same effect or provide a brighter contrast to the things around them. Plants in pots are useful for bedding, for if the receptacles are sunk in the ground the graceful tops do away with that tiring flatness of surface which too often exists in flower-beds in the summer.—G. H. H.

Dwarf Hydrangeas.—Under all conditions the Hydrangea is a telling flower, without any exception of species or variety, no matter whether in the conservatory or beautifying the flower garden. Big specimens covered with great trusses of flower are effective, but who has grown small plants in 5-inch and 6-inch pots, and crowned with one large delicately tinted head, without appreciating their value for decorative purposes? Just now there is an array of them adorning the conservatory stage, and there is yet time for anyone to commence with a view to a display this time next year. The cuttings are readily rooted, and the plants only require reasonable care in cultivation. If firmly potted in good material they will make sturdy growth, and when in bloom every little plant is a specimen. The old hortensis and its varieties are prime favourites for the purpose, and if there is a desire to change the delicate pink shade to an equally delicate lilac a few applications of water in which steel filings have been immersed will effect the purpose.—H. H.

THE FRUIT GARDEN.

"BLIND" STRAWBERRY PLANTS.

I LATELY received the following enquiry: "We have many 'blind' Strawberry plants this year. Can you suggest a reason for it?" Perhaps some of the contributors to THE GARDEN can answer this question, i.e., give a positive reason for apparently satisfactory plants subjected to good treatment proving "blind" when forced. I confess I cannot to my entire satisfaction, and I feel certain if someone will do so their remarks will be instructive to others besides my correspondent and myself. No mention was made of the names of the variety or varieties alluded to. We are all aware that weak or imperfectly matured plants, as well as high temperatures during the early stages of forcing, owing to causing an insufficiency of time for the organs to fully develop, conduce to facilitate "blindness," while plants potted very early, especially when placed in small pots, sometimes prematurely burst into blossom, and fail to furnish flowers later when forced. Why those that received generally recognised proper treatment and are apparently in every way satisfactory prove to be sterile appears unaccountable.

Vicomtesse Héricart de Thury when forced very

early (and possibly the effect of short days and the consequent defective light contributes to or entirely produces the evil) is the only variety that I have had serious reasons to be dissatisfied with. So prone is this variety when forced early to the malady that many plants are sacrificed, and in consequence, notwithstanding its other valuable qualities, it cannot be so highly recommended for general forcing purposes as it otherwise deserves to be. The defect has been attributed to degeneration, and this would appear feasible were only old-established varieties the defaulters, but this is not the case. For example, Vicomtesse H. de Thury possessed the fault thirty years ago, when I remember plants of it being forced that were raised from others derived from the Royal Horticultural Society's Gardens at Chiswick soon after the variety was first distributed. Many of us recently had similar experience (although it cannot be said to have originated from the same cause), but in a more aggravated form with the variety Monarch planted outdoors soon after it was raised from seed. The practice of stacking plants upon their sides in autumn has a weakening effect, especially when the soil is allowed to remain for weeks together in a parched condition, and has been blamed for promoting "blindness." This, at any rate, is not the only cause, as those that are afforded rational resting treatment are sometimes equally disappointing.

The crops of forced Strawberries are to many of us of considerable importance. Royal Sovereign is at present a very trustworthy cropper, either forced or grown outside, and scarcely one plant in a hundred is barren. Particular care, however, should be taken even with this not to propagate from a sterile plant or a degenerated stock may be formed. I once saw a similar instance to this. Some "blind" plants of Vicomtesse H. de Thury were hardened, planted out, and liberally treated with a view to yield early runners for layering. This was done with a result that all the plants thus raised proved barren. Relative to this question I once forced early a lot of La Grosse Sucrée, and many of the plants developed flowers destitute of male organs (being, as it were, deciduous in character), while others had flowers possessed of both perfect male and female organs. The imperfect blossoms were carefully fertilised with pollen from those that were perfect, and produced excellent fruit. Would a deficiency of light account for the flowers being without male organs?

OUTDOOR VINE CULTURE.

IN the British Isles the outdoor culture of the Grape has, owing probably in a great measure to the adoption and vast extension of indoor cultivation, become comparatively a thing of the past. That the Vine can, however, still be satisfactorily grown in our malignant climate, as it was in the time of William the Conqueror, is evidenced by the vineyards under the superintendence of Mr. Pettigrew, at Castle Coch, near Cardiff, and elsewhere by others in a less degree. On the Hendre estate good wine, although doubtless it would not be partaken of by a connoisseur without depreciatory remarks, yet, nevertheless, good, has for years been made from Grapes grown upon a farmhouse. These facts are instanced to encourage those who do not possess Vineries, but have suitable cultural conditions outside, and would derive pleasure both in growing as well as consuming refreshing Grapes, or wines, of their own production. In most cases a wall or building, with a south or west aspect, is essential to success, and a border must be prepared. This need not be an expensive undertaking, for provided the soil is a good loam, naturally well drained, all that is necessary is to bastard trench 2 feet in depth a strip parallel to the wall some 8 feet or 10 feet in width. At the same time a liberal dressing of mortar rubble, wood ashes, and crushed bones incorporated with the soil would be beneficial, both by enriching it and increasing its porosity. In cases where favourable conditions are not naturally forthcoming they must be artificially provided, for a warm position, good soil, and thorough drainage are indispensable to successful Grape culture, irrespective of other circumstances.

For planting, strong canes should be provided, and be planted when their buds begin to burst by carefully removing the soil from their roots, regularly spreading, and firmly covering them with 3 inches of soil. The Vines may be placed either 3 feet or 9 feet asunder, which will admit of their rods being 3 feet apart, in one case one rod and in the other three rods, being trained in a vertical position from each Vine. Subsequent treatment consists in disbudding the weakest lateral growths, nailing the strongest about 16 inches apart on either side of the rods to the wall, stopping them so that they meet midway between the rods; pinch the sub-laterals beyond the first leaf. The extending shoots should be stopped when they have made growths 3 feet in length, but their subsequent leading breaks should be allowed to extend, and their side-shoots stopped beyond one leaf. This treatment will afford ample space and permit the sun to mature the wood, upon which the vigour and fertility of the Vines greatly depend. In winter pruning the laterals must be cut back to two prominent basal buds, while the extending growths should be shortened to the points where they were stopped, viz., to 3 feet from their base. This mode of training and pruning should be followed until the allotted space is filled, when the winter pruning will be restricted to merely cutting back the lateral growths.

Young Vines planted in good soil do not need manurial assistance until the borders are well filled with roots, but once they exhibit signs of debility they should be supplied with liquid manure, chemical compounds, or other rich stimulants, and improvement may be wrought upon matured Vines by cutting out old rods and encouraging the growth of young ones to replace them. For ordinary planting in a small way, Sweetwater is a desirable variety, but Mr. Pettigrew speaks highly of a variety named Gamay Noir for wine production.

Apart from growing the Vine for its fruit, it takes a useful place among deciduous climbers, being very suitable for furnishing certain kinds of buildings. I remember seeing a front of the mansion at Buckhurst Park, Sussex, effectively clothed with it, and it is made similar use of at Cardiff Castle.

THOS. COOMBE.

The Hendre Gardens, Monmouth.

AMATEURS' PERPLEXITIES

CHERRIES IN POTS.

I SHOULD be much obliged if you will tell me how to grow Cherries in pots in the orchard house for very late and gentle forcing, the best kinds, and, in fact, all hints possible.

St. Petersburg.

R. K.

[We are pleased to assist you in the way desired, and as you do not need to force hard you should have much greater success. When you use the term very late we presume you mean for a supply as late as possible from pot trees. Of course, in your country the seasons are not the same as our own, so you must take that into account in advice given as regards culture. Cherries grown in pots and forced slowly are a great success. You may never have seen the pot trees grown in this country by Messrs. Rivers, of Sawbridgeworth, but those who have will remember the magnificent fruits staged, and these are grown as cool as possible, merely given glass protection. Now, forcing as you propose is just the thing needed, hard-forced trees rarely give a good return; indeed, with any stone fruit such forcing in their early stages means failure sooner or later. There are many varieties, as, fortunately, some of our best kinds succeed most satisfactorily with glass culture. One of our best pot trees is the Early Rivers—we will give you varieties in order of ripening—this is ripe in this country in the middle of June, but we have seen it ripe much later given pot culture in a north house, and much earlier when gently forced; it is a beautiful black fruit, remarkably prolific, and has a very small stone. The next best black is the large Bigarreau de Schrecken, a grand Cherry for house culture. The Frogmore Early Bigarreau, a large pale yellow

fruit, and an abundant bearer, is also very trustworthy. Next comes the Bigarreau Jaboulay, a later Bigarreau of splendid quality, a light red fruit, but not so prolific as those noted above. For succession to these some of the Duke section are remarkably fine. Archduke is a grand fruit; a red variety, Royal Duke, is also very fine, and follows May Duke; the latter is also a good pot tree, but one of the best of the Duke section. Of the later kinds, Nouvelle Royale or Gloire de France is excellent, a later variety with a very large, handsome fruit, having a close habit, one of the best varieties we have for pot culture; indeed, you may with advantage grow this in quantity, and this latter remark applies to the Early Rivers' and Bigarreau de Schrecken. To complete our list of later kinds, the Florence is a very beautiful Cherry, a large late yellow. Also Emperor Francis, a rich, large, late, dark Bigarreau, to which should be added Bigarreau Napoleon, a pale yellow, a great bearer, and one of the best; this should be grown largely under glass. The Monstreuse de Mazel is a fine late fruit, also Late Duke, a variety that will hang a long time when ripe if kept cool and shaded. As regards forming and stopping, much depends upon the varieties. Some grow much closer than others and need less stopping. Others, by curbing the roots, make so little wood that most of the fruit is produced on spurs with trees grown in pots, and the spurs should be fostered and encouraged. For instance, if the trees are potted up in the autumn they should be shaped, that is, branched; it then depends upon what sized pot you can allow, what height or size trees your house can do with; if large, then you need not stop your trees so hard or close, you may give the main shoots more room to develop; say, stop leaders at 6 inches to 8 inches long each year, but closer if room is not available. You see you must at all times allow a certain number of terminals to grow to encourage the fruit to swell freely. You may stop what we term spurs rather close, say, a few leaves or joints beyond the fruit, and rub out useless weak spray growth to allow fruiting wood space. By this there will be little pruning in the winter, merely shortening of main growth before forcing. Potting is important. You will need to repot if your trees are in small pots 12 inches to 16 inches every season, taking away carefully a portion of the outside of the old soil with a pointed stick, cutting away extra gross roots, and repotting just as the leaves are colouring in a good loam with such aids as bone-meal and a little quick-acting food. Pot very firmly and keep the plants from becoming waterlogged. Many cultivators plunge their trees in the open, but the roots need protection. In your case we think your trees would be best under glass, and, if larger pots are used, you need not repot yearly, but feed liberally. Temperature advised should be as low as possible at the start, ample ventilation when flowering, then a slight increase, say, when you close your house give 45° at night, 10° higher by day, or more by sun heat when in blossom, afterwards increase 5°, water sparingly till growth is vigorous, especially while the stone in the fruit is hardening. As the fruits swell give 55° at night, not exceeding 60°, and 10° higher by day. Syringe twice daily, morning and afternoon, fumigate freely to keep clean, and feed freely; also mulch trees with manure if the pot is small, and, as fruits ripen, keep the atmosphere drier.—Eds.]

PLANTING ROCK WALK.

"F. B. M." (Guernsey) writes: "I have been planting part of a rock walk with dwarf shrubs, Empetrum, Vaccinium, &c., in a peat soil, and I wish to get grass to grow short and scrubby between the shrubs to give a wild wood effect. Would it be sufficient to plant ordinary lawn grass seed, putting much sand with the soil, to make it poor, or should special seed be used?"

[Ordinary lawn grass would not give the effect you desire. It would be best to ask some first-rate seed dealer for the dwarf tufted kind of Sheep's Fescue (*Festuca ovina*). It is one of the grasses that comes naturally in poor sandy and peaty soils.—Eds.]

THE FLOWER GARDEN.

AUBRIETIAS.

VIOLOCEA and Leichtlini are just now superb, both used as an edging, one on one side and the other on the reverse side of a long walk. My attention was called to these plants back in the winter, when they looked as if they were bereft of vitality, simply bare stems, naked of foliage. I find that Aubrietias suffer most from fog and wet, and especially so when sharp frost follows hard on the heels of rain. But as soon as spring influences are abroad, the naked stems put forth innumerable growths, the apparently dead come forth, and there is a complete resurrection to active life. I have known Aubrietias destroyed by frost, but only during unusually severe frost accompanied by bitter winds, and when the plants occupied a low and damp spot imperfectly drained.

The two varieties I have named contrast admirably. Violaacea is a seedling of my own, which obtained a certificate of merit from the Royal Horticultural Society twenty years ago. There is but one species of Aubrietia, the Neapolitan A. deltoidea; all the others have been derived from it. The type, with its varieties Bougainvillea, Campbelle, and Purpurea, have become eclipsed by the larger and deeper-coloured varieties, Eyrei, Græca, and Violaacea, the last-named the finest; but any variety can maintain a high standard of quality only by persistent selection.

The rosy-coloured A. Leichtlini we owe to Herr Max Leichtlin of Baden-Baden. Years ago, when the late Mr. William Ingram was making Belvoir Castle so famous for its unique spring gardening, he had a nursery in which he carried on what he felicitously termed the education of his plants, selecting primarily for precocity, because he always endeavoured to make his best display in March. He was then selecting rosy-coloured Aubrietias, the materials for doing which, I think, he originally obtained from Herr Max Leichtlin. Since then came Leichtlini, which is as hardy as A. deltoidea, and, later, Souvenir de William Ingram. I am glad that one of our most useful spring flowers keeps this grand old gardener's memory green in our hearts. I am afraid that for some reason it is not of so hardy a constitution as Leichtlini; the plants of it I have grown appear

to suffer from spring frosts just as they are putting forth their leafage. The flowers are rather larger than those of Leichtlini, and of a deeper rose colour.

A short time ago there was exhibited at one of the meetings of the Royal Horticultural Society a large-flowered lilac variety bearing the name of Beauty of Baden-Baden. It was shown by Mr. Maurice Prichard of Christchurch. There is reason to think this is not altogether hardy; if this is so, then its value in the spring garden is clearly discounted. Time will prove whether it can claim the hardihood of Leichtlini.

There are selections from Violaacea and Leichtlini which can be found in catalogues, and their distinctness has to be demonstrated. There are characteristics belonging to Souvenir de William Ingram and Beauty of Baden-Baden which differentiate them from the type Leichtlini, but for anyone to select a deep-coloured variety of Violaacea or Leichtlini and give it a new name is a proceeding scarcely to be commended, because it has been found seedlings from both vary in colour.

R. D.

IRIS WILLMOTTIANA.

THIS charming Iris was given an award of merit by the floral committee of the Royal Horticultural Society on April 23 last, when shown by that enthusiastic lover of flowers, Miss Willmott of Warley Place, Essex, after whom it is so appropriately named. A brief description of it appeared in THE GARDEN of May 4, page 322, and in the *Gardeners' Chronicle* of April 27 it is figured with a description from Sir Michael Foster of Shelford, who says:—"I have received from Messrs. Van Tubergen of Haarlem, Holland, a charming little Iris, which seems to me to be, for the garden, at least, distinctly a new one. The habit is that of I. caucasica, and this it resembles in the size, shape, arrangement, and horny margin of the leaves; the surface of the leaf is, perhaps, more glistening, devoid of the glaucous sheen, but otherwise I can see no marked difference between the two. The flowers, four to six on the scape, as in I. caucasica, are, as in it, sessile. The colour of the flower is, however, wholly different; instead of being yellow, it is lavender, or some similar tint of diluted purple, with blotches of white, mingled with marks of a deeper lavender on the blade of the fall. The general form of the flower is that of I. caucasica, and one might be tempted to regard

it as a blue (or purple) form of I. caucasica. But there are differences besides those of colour. Not only is the flower rather smaller than that of I. caucasica, but also the lateral expansions of the claw of the fall are much less marked than in I. caucasica, and are not transparent; in this respect the new plant approaches I. orchoides, and indeed it stands somewhat midway between that plant and I. caucasica. The spathe-valves, again, are not inflated as in I. caucasica, but narrow, as in I. orchoides. The crests of the style, too, are triangular and small, not quadrate and large, as in I. caucasica. On these grounds, especially in view of the present condition of views as to what a species is, I think this new Iris fairly deserves to be given a specific name; and I venture to suggest the name of I. willmottiana, in recognition of the gardening services of a well-known lady. It was found growing wild in 1899 by the collector of Messrs. Van Tubergen on the mountains of Eastern Turkestan, occurring at a considerable height."

NOTES ON LILIES.

LILIES AT THE TEMPLE SHOW.

LILIUM LONGIFLORUM in one or other of its different forms—notably Harrisii—was exhibited in several places at the Temple show, but very few others were to be seen, except in Messrs. Wallace's collection, where a representative group was staged. Most of those that could be had in flower at this time were noted, but, the season being very backward, many of them showed traces of having been forced to a greater or lesser extent, in order to induce them to bloom by the time required.

The Isolirion group, in which the flowers are erect, more or less cup-shaped, and borne in terminal heads, though consisting of but few species, is very prolific in distinct varieties, especially in the case of L. elegans, or thunbergianum, and L. umbellatum, both of which were represented by several forms at the above exhibition. Of the varieties of L. elegans, itself a most variable Lily, the following were particularly noticeable: L. alutaceum, one of the earliest of all, its comparatively large, buff-tinted blossoms being borne on stems about 6 inches high; Alice Wilson, a rare Japanese variety with lemon-coloured flowers; atrosanguineum, with large, rich red blossoms; marmoratum aureum, a vigorous grower, flowers orange-yellow, thickly dotted crimson, and in the bud state particularly woolly, also known as robustum and guttatum. Orange Queen, which received an award of merit last year, is a particularly massive flower of a clear orange-yellow, slightly dotted towards the centre with chocolate; and Van Houttei, rich crimson, a fine round flower.

L. umbellatum does not vary so much as elegans, but still several forms were shown, notably aurantiaecum, orange, flushed red; Cloth of Gold, rich yellow; erectum, red, lit up with orange; and Tottenhami, yellow and red. All the above-mentioned Lilies are good border kinds, except that in the case of two or three of them the price is rather prohibitive.

Of the Martagon section, there was the exceedingly graceful pure white L. Martagon album, the Japanese



IRIS WILLMOTTIANA.

L. Hanson (whose thick, wax-like petals are of a clear yellow, spotted with brown), and two hybrid forms raised between the species just mentioned, viz., *Dal-hansoni*, whose parents were the deep-coloured form of *L. Martagon* known as *dalmaticum*, and *Hanson*. The second hybrid, *Marhan*, was obtained from *L. Martagon* album, the other parent being also *Hanson*. Other members of the same group were *excelsum* or *testaceum*, whose prettily reflexed nankeen-coloured flowers are admired by everyone. This Lily was recently illustrated in *THE GARDEN*, where what little is known of its early history was also alluded to. *L. szovitzianum*, or *colchicum*, that needs a good deep loam for its development, is scarcely suitable for pot culture, but two or three examples were shown. The small-growing *L. tenuifolium*, with its very narrow leaves and pretty little Turk's cap-like blossoms of a very bright red, stood out as very distinct from the rest. Other species in this group were the *Madonna Lily* (*L. candidum*); the orange *speciosum*, *L. Henryi*, with two or three flowers open before its time; *L. longiflorum giganteum*, as usual very showy; and last, but not least on the score of effectiveness, were several plants grouped together of *L. rubellum*, which was much admired. This appears to be a better grower than its near relative, *L. Krameri*; still, it is decidedly particular in its cultural requirements. This fine collection of Lilies, hailing from Colchester, should augur well for a good exhibit from the same source at the Chiswick conference in July.

H. P.

BRITISH HOMES AND GARDENS.

HEWELL GRANGE

MIDWAY between the Worcestershire towns of Bromsgrove and Redditch lies Hewell Grange, one of the country homes of the Right Hon. Lord Windsor, P.C. So well hidden is it at the foot of a hill, whose wooded slopes reach to the high road not far distant, that were it not for the glimpses of park and woodland through the entrance gates that denote the presence in the near neighbourhood of some stately home, one might well remain in ignorance of the site of Hewell Grange. Although from its situation it is necessarily deprived of the enjoyment of extensive views on the western side, those obtainable to the north and east are strikingly beautiful. Beyond the bordering lawns, beds, and shrubberies in front of the Grange, and stretching away on either side as far as one can see, is the picturesque lake, made additionally attractive by the bright and highly coloured stems of the Willows that abound upon its island. To the north the onlooker is confronted with the typical scenery of an English park—undulating ground where clumps of Elms, Oaks, Beeches, &c., and single specimens of these and other British trees unite in giving that ever-varying aspect that charms and pleases at all seasons of the year. Now it may be a clump of Chestnuts bursting into growth that attracts attention; in the course of a few short weeks the Limes and Elms will be in a similar condition; and by the time the Oaks have taken



HEWELL GRANGE FROM THE NORTH.

on their green covering the Chestnuts are almost full of flower.

Across the broad expanse of lake, beyond where the scarlet and yellow Willows cast their shadows into the water, and the graceful plumes of the Water Reed will nod to the summer breezes, one's glance is irresistibly led from all the surrounding tree vegetation to a clump of grand old Scotch Firs, the heads of black foliage standing out clearly from their picturesque and beautiful trunks. But few trees add more stateliness and charm to a landscape than a clump of old Scotch Firs; they are so distinct from most other conifers that attention is drawn to them, and so characteristic that the impression made is not readily effaced. No less on the hillside to the east and west of the Grange, than on the lower ground around the lake, do the splendid specimens of conifers and British deciduous trees help to impress upon one how much of true beauty there is in forest trees, and that no less when the twigs are bare and the branches visible than when covered with verdant green.

The path that winds around the hill leads one, now around a Lime, perhaps the most quaint of indigenous deciduous trees when seen in its leafless state, the branches knotted and twisted in a most curious manner, then by a noble spreading Beech, also hardly less striking now than when in full leaf, again brings one into full view of a *Picea Morinda*, or an *Atlas Mountain*, or *Deodar Cedar*, peeps being had the while of Spanish Chestnuts, Larch, *Abies* and *Piceas* in variety, and a host of other evergreen and deciduous trees that go to make up a woodland scene of far more than usual interest. Upon the lawn which intervenes between house and lake are stately Cedars, beds of *Rhododendrons*, *Azaleas*, *Roses*, &c., each in their turn giving variety of floral colour and form to the garden landscape.

During the past winter extensive alterations have been made in the pleasure grounds, the most important of which is the opening up of a long vista from the top of the hill behind the

Grange to the lake, a distance of half a mile or more, and the formation along the greater part of it of a series of grass terraces, each of which is connected by grass steps. Many months have been spent upon this important work, but that it has thoroughly well justified itself is very apparent, if one either looks from the top towards the flower garden, lake, and distant woodland, or if one stands on the lower ground to obtain a view of the unique and beautiful green terraces, irregularly framed in an admirable setting of woodland.

The French garden that is situated close to the house on the eastern side is an excellent example of its kind. The beds innumerable, both small and large, that are contained in it, with their quaint edging of Box (there must be miles of it), are seen at their best in late summer, the period at which Lord Windsor usually takes up his residence here. Early summer time, too, is not without its charms so far as the French garden is concerned, as the wealth of climbing *Roses* that have covered the rustic trellises and poles against which they were planted unmistakably makes evident. Particularly interesting this year will be the quaint old Dutch garden, with its formal beds of strange design and high Box edgings, for it will be planted with white blossoming plants, in which *Anemone japonica alba* will find an important place. As this garden is in a somewhat shaded spot, the result should be extremely effective, for where are white flowers seen to better advantage than amid shade and dark environments? In the rockery abound many plants that one does not usually find in this particular portion of the garden, yet the numerous *Heaths*, some of which are almost always in bloom, creeping *Ivies*, various *Ferns*, pigmy *Conifers*, *Cotoneasters*, *Per-nettyas*, to mention a few of them, do away with any possible formality (existent in many rock gardens), and add a variety of colour and foliage thoroughly welcome.

The many herbaceous borders and flower beds in various parts of the grounds are

planted so far as is possible with plants that are brightest towards the end of the summer, for that is the season at which Hewell is expected to be at its best. Michaelmas Daisies, of course, play an important part in the embellishment of the above, as also do *Anemone japonica* and its varieties, *Gladiolus gandavensis*, *Lobelia cardinalis*, *L. Queen Victoria*, *L. fulgens*, *Gaura Lindheimeri*, *Rudbeckias*, *Helianthus*, *Polygonums*, *Verbena venosa*, &c. The brightness and beauty of many gardens almost disappear with the last days of summer, but at Hewell the approach of autumn, with its chilly nights and shortening days, is greeted not with a diminished but rather with an increased supply of flowers in the beds and borders. Such is a most commendable practice to follow, and although in gardens where a continued succession and large supply of summer flowers is essential, it would perhaps be more difficult, much might often be done by cultivating a judicious selection of autumn-blooming plants to improve in appearance and interest the flower garden towards the close of summer.

We will not refer at length to the various phases of glass gardening that are successfully carried out at Hewell, with fruits as with flowers, but with reference to the latter it is interesting to be able to endorse all that a writer in *THE GARDEN* recently remarked about the culture of *Eucharis amazonica*. The note stated how well the *Eucharis* grew and flowered when planted out in a small bed of soil made up under the stage of a warm house. The remarkably good plants that are here grown under similar conditions go to prove how well such a place suits them.

They are also planted in a narrow border at the back of some of the glass houses, quite a long way from the roof, and there too succeed exceptionally well. As some cultivators often have a great difficulty in persuading the *Eucharis* to produce its lovely white flowers satisfactorily, it is of interest to find this plant flourishing under what one would certainly have thought to be adverse conditions. Although the *Camellia* house, whose occupants yield thousands of blooms annually, the splendid *Calanthes*, most useful of winter Orchids, the Peach and Nectarine trees under glass, full of blossom and giving excellent promise of a good gathering, the other fruit trees, as well out of doors as under glass, are equally good expositions of successful gardening as the features already mentioned, they must be content with this casual reference. We have attempted rather to give some idea of the characteristics of Hewell Grange that are peculiar to itself, for it is in the individuality of a garden, and that of Hewell is well preserved by Mr. Andrew A. Pettigrew, that its interest and educational value lies.

WOODLAND AND FOREST.

SUMMER WORK IN THE WOODS.

THINNING AND CLEARING.

PLANTING will now be finished in the woods, or ought to be, and as it takes up a large portion of the year between autumn and the end of spring, a good deal of general work has to be crowded into the summer months. Regulating and thinning young plantations is forest work at any season, but it is when the leaves are on the trees that the work can best be done, because it can then be

seen which are the dominant ones. In mixed woods of hardwoods and Firs there is often need for the removal of limbs of species like the Horse Chestnut, Beech, Poplar, Sycamore, &c., and of whole trees of the wrong sort. Pruning is a necessity in such mixtures if it be desired to give the different species a chance. Neither the Scotch, Corsican, nor Austrian Fir, nor any of the *Pinus* family have a chance with such neighbours planted like anything in the same proportion. These Pines will not bear shade for any length of time, and if left over-topped for a year or two they will suffer severely, and take a long time to recover. Mixed species should never be planted together in the same proportion, but always more of the weaker kinds than of the others. I am really speaking of existing woods, for such mixtures are not to be recommended at all, although they are common. The Scotch Fir and other Pines usually planted grow at a much slower rate than some of the vigorous, broad-leaved species, especially at the beginning, and are soon over-shadowed. The Sycamore and some other trees will often grow three times as fast as the Firs, or even as the Oak, and as soon as they get their heads fairly above their slower growing neighbours the latter are done for unless looked to. The strong growers begin to send out side limbs as soon as they have the top space to themselves, and if not watched their limbs meet and all between are smothered. In a mixed plantation of hardwoods the Larch succeeds better than almost any other Fir, because it makes longer annual leaders, and keeps the lead, otherwise it cannot bear the shade.

I have seen Larches that grew up from infancy, without any attention, in a dense Beech wood to over 80 years of age and fall with 70 cubic feet of sound timber in them. Everything depends on a tree keeping its leader—its head and shoulders—clear of its companions. From youth to age that is the all-important point, but in an indiscriminate mixture all the species cannot do that without assistance, and now is the time to see where to apply the bill-hook or the saw. It is not side, but top light, that is wanted, and all that the operator has to do is to lop off the higher side branches of the dominant broad-leaved species, and he need not be afraid of hurting these if he cuts clean and close, right to the

stem as a rule. It is, however, often difficult to know what to do when all the species stand in about equal proportions once the strong growers have got the lead. If these will make a wood it is really hardly worth while leaving the weak, dominated trees, because they will need watching for years, and it becomes expensive work. The long pruning chisel is an unknown tool in continental forests, but in this country, in mixed and over-thinned woods, I have known of squads of men and boys being employed for months pruning tall trees to keep them straight and within bounds, in mixed woods the man holding the chisel with the 20 foot shaft and the boy the mallet to hit it with. My own inclination, in regulating woods consisting of a general mixture, is always to leave the best and biggest trees that are likely to first reach a profitable size, and let the others go—that is to say, when there are enough of these to make a crop. Where not, of course the best of the others must be left, but the big Sycamore, Ash, Beech, &c. should have the preference.

As regards the common and Silver Spruces, they can usually more than hold their own in a mixed wood, if the soil and situation suits them, if not they soon succumb and are no great loss. Their power of enduring shade gives them a pretty safe footing anywhere, and they keep their heads well up to the light.

As to the lopping of trees generally, the summer is perhaps the safest time in all the year as far as injury to the trees is concerned. Some species, like the Sycamore and Birch, bleed freely, and to their injury, if pruned just before coming into leaf, but after that the leaves absorb all the sap that the roots can pump up, and nothing is lost by pruning. The sap is only directed into other channels, and the wounds begin to heal at once, small branch cuts usually getting barked over in a couple of seasons or so without injury to the tree. With big branches, it is, however, different; summer is a good time to remove them, when they have to come, and wounds on vigorous growing trees heal rapidly round the edge of the cuts, but under the most favourable conditions it takes years for the bark to grow quite over a big wound. Very often big limbs never quite heal over, and such open wounds decay in time right into the trunk, causing much loss ultimately in the value of the timber.



THE LAKE AT HEWELL GRANGE.

Pruning should be done, if done at all, when the trees are young.

An important point in regulating plantations at this period is to avoid exposing the ground anywhere after the young trees have met. There is never any need to remove a tree, even if it be dead, unless it is crushing its neighbours too much and interfering with their height growth. It has been very trying weather of late for young plantations, the rainfall being under the average, and where young trees have not yet covered the surface of the soil they are suffering from drought, especially on bare land. The difference in the degree of moisture in the soil in an open thin wood and in one where the trees quite cover the ground is always marked. In the latter evaporation is much less, and the moisture in the ground about the roots of the trees consequently greater, with a corresponding benefit to the trees. There is hardly any comparison between the growth of trees standing thinly on hard, sun-baked ground and that of trees that have established a complete cover. As an anxious head forester said to me lately, when looking at a dense young wood where the trees had closed up and begun to put on height growth, "They have hung fire for five years, but they are off now, thank goodness!" Of course at this stage a Brown's disciple would be among the trees with the thinning hook, but we know better now.

Young, newly-planted trees in the home nursery want attention about this time. Watering sufficiently is sometimes out of the question, but wherever there are woods leaf-mould can usually be scraped up somewhere, and it makes an excellent mulching for young forest trees, and may save the lives of thousands

of young stock in dry weather. The exposed, newly-dug surface of a nursery plot is soon parched, and mulching then works miracles in preventing evaporation and keeping the soil cool and moist. The mulching should be put on when the trees are planted in the rows, but it is never too late to put it on. Whenever my wood teams go into the woods loaded full, they return loaded with leaf-mould that has been collected at different times, and it is laid in the nursery ready for use.

J. SIMPSON.

A GARDEN TANK AND STEPS.

It is pleasant in a place where there is a small house in a good space of rather haphazard garden—a garden that from its own circumstances could not be definitely planned from the beginning, but that in its making "followed the line of the least resistance"—to have a small portion of pure formality close to the building. This has been done with good effect in the example shown in the illustration, where there are easy steps and a dipping tank, and Box bushes that as they grow will be clipped into symmetrical balls set in stone plinths. The house stands on slightly sloping ground, and whereas on the south side one low step down reaches the ground level, on this, the north side, the difference of level is met by the arrangement shown.

SHORT STUDIES ON PLANT LIFE.—XII.

OXALIS CERNUA.

This plant, a native of South Africa, is occasionally exhibited at the horticultural shows, but if any

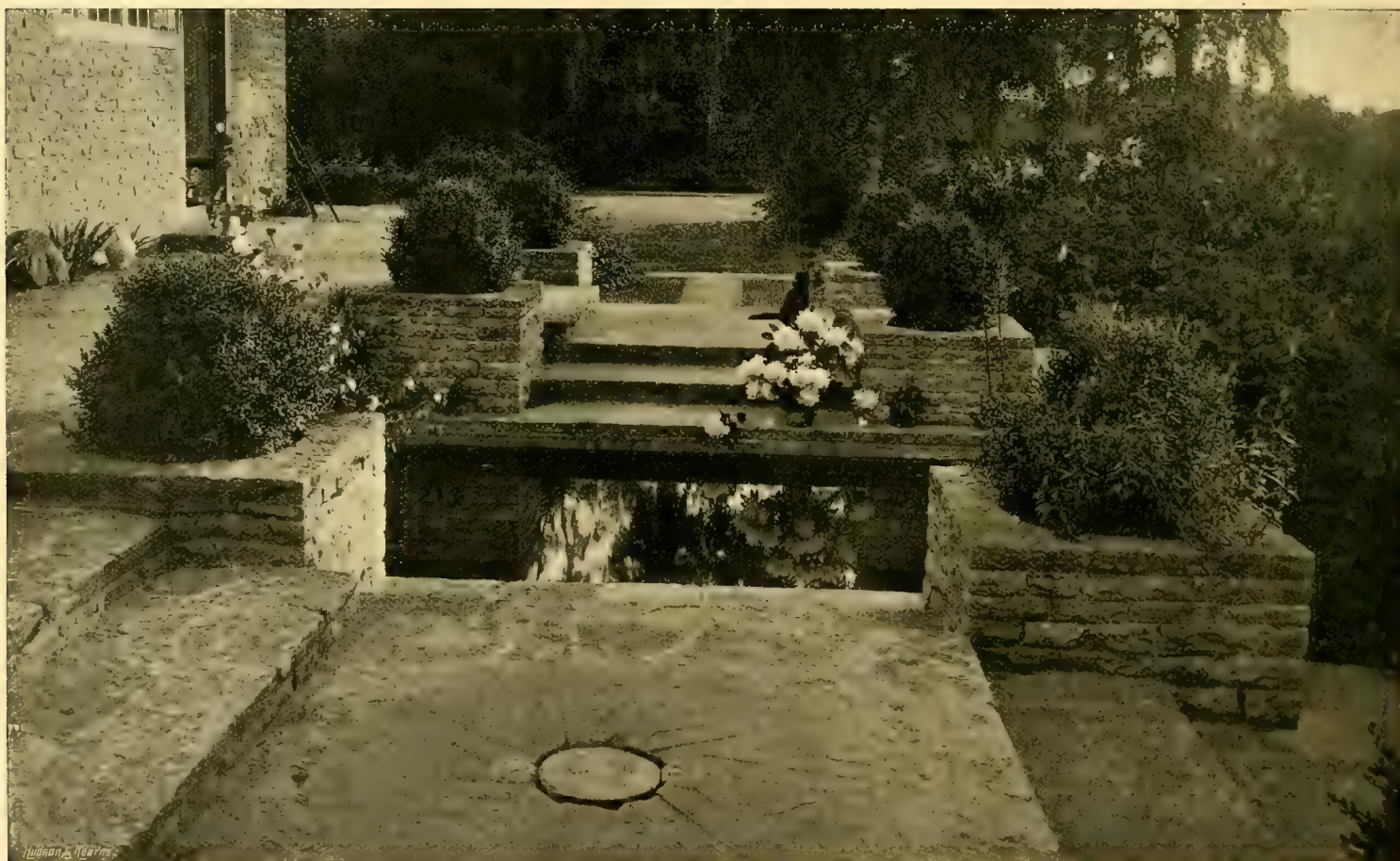
one wishes to see it in perfection let him go to Malta, where the Maltese call it "The English Weed." It has a remarkable history. Father Hyacintho was a teacher or professor of botany and medicine at the beginning of last century, and received a plant from the Cape on or before 1806.*

It is trimorphic, like our Loose-strife (*Lythrum Salicaria*), but only one "form," the short-styled one, is present. It appears to require the others for fertilisation, as, although it has thriven for 100 years, it has never been known to set seed in the northern hemisphere. It propagates itself solely by tiny bulbs.

From this beginning it has spread, not only all over Malta and Gozo—indeed the fields are sometimes as yellow as our own meadows with Buttercups—but through the intercourse between Malta, North Africa, Italy, &c., it reached Egypt (with the Mandarin Orange tree) about 1820. It got to Gibraltar in 1829, and, in fact, it is now to be seen at intervals from Egypt to Morocco, and from Gibraltar to the Greek Islands.

It has a remarkable rhizome, being thread-like in form, which penetrates to great depths among the limestone rubble so common in Malta. It also, somehow, finds its way to the top of the high walls and the lofty fortifications around Valletta, clothing them with golden masses of flowers, for it bears tall umbels of drooping yellow blossoms and a green mass of trifoliate foliage below. It forms the greenery by the road sides, which in England would be grass. It covers the glacis of the fortifications, and makes an entire lawn at the Naval Hospital and elsewhere. The Maltese simply pull it up as a weed from the fields and lay it to die on the tops of the low stone walls, but as it withers it develops bulbs. Even when drying it under pressure for my herbarium, I found the long rhizome had produced several bulbs, while the

* It is first recorded in a catalogue of plants cultivated in the Botanic Gardens of Malta, compiled by the Rev. Father in 1806.



A GARDEN TANK AND STEPS.

foliage and flowers were dead. As the heat of the summer is almost tropical in Malta, everything herbaceous perishes above ground; but the thread-like rhizomes terminate below in a thick rod, like a pencil, lying deeply concealed below the surface. This stores up a quantity of water which enables the plants to live. When flowering near a stream it produces long runners above ground, but I never found them rooting like a Strawberry plant, but only making bulbs, by which alone it is propagated. It is an unsatisfactory plant from a floral point of view, for if one gathers a bunch for decorative purposes, before reaching home the petals will have all coiled up and they will never again reopen. At present it is not only a useless plant—even the goats will not touch it—but an intolerable nuisance in Malta. If anyone could discover a use—of course it has oxalic acid—he might make a fortune, and at the same time be a general benefactor to the Maltese by exterminating it from the island. There is a double-flowered form of an orange colour, which is pretty abundant, but by no means so ubiquitous as the yellow, single-flowered original species. In South Africa it blossoms, it is said, in July, but in Malta it has accommodated itself to the climate, and flowers contemporaneously with other plants from November to May. GEORGE HENSLOW.

AN ARTIST'S NOTE-BOOK.

FRITILLARIES.

FRITILLARIA RECURVA, which comes to us from California, is, I think, by far the best of all the Fritillaries, both by reason of its exceptional colour and the freedom with which it produces its brilliantly coloured blossoms. It is without doubt one of the most beautiful plants which has ever been introduced to our gardens. Happily, too, it is as easily accommodated as any, growing freely in any ordinary loamy soil made rather sandy. Another advantage of this variety is that it will flower from very small bulbs. The flowers are bright scarlet, freely spotted with yellow, and beautifully recurved; large bulbs of it will produce as many as twenty of its handsome flowers. This charming plant, though introduced twenty years ago, is still far from common in gardens.

F. PYRENAICA is an interesting and free-flowering species with large purple flowers.

F. PALLIDIFLORA is another very distinct flowering species, growing 1 foot or more high, and producing clusters of its pale yellow flowers, the latter regarded individually

bearing a strong resemblance to some of the Abutilons as regards outline. They are also beautifully chequered internally.

F. ARMENA is a dainty little species from Asia Minor with soft yellow flowers, easily grown and readily increased, while for pro-

viding variation with freedom of flowering, perfect hardiness, and adaptability to almost any soil, we have none to compare with our native species, *F. Meleagris* and its varieties. The flowers are borne on slender stems nearly 2 feet high, and are large, drooping, and bell-shaped, while in colour we find purple, brown, white, bronze, and so forth, one and all either mottled, striped, or splashed in the most picturesque manner. This little group in



FRITILLARIA RECURVA.

(From a drawing by

H. G. Moon.)

itself constitutes a very useful assemblage equally valuable for pots as for the borders or rockery; in either position their very quaint forms always find many admirers.

All the above succeed in a mixture of sandy loam and leaf-soil, and if planted 3 inches or 4 inches deep will invariably produce good results; the dwarfier species should not be planted more than half this depth, and on account of their value I generally give them a little sandy peat with the soil at planting, *F. recurva* seeming particularly at home in such a mixture. E.

GARDENING OF THE WEEK.

ORCHIDS.

DENDROBIUM PHALÆNOPSIS SCHRÖDERIANUM is one of the most beautiful of the genus, requiring a high temperature, a humid atmosphere, plenty of water at the roots and freely syringed during the growing season, and grown in small pans suspended from the roof in the lightest possible position. Repotting should take place as soon as growth commences, and very little material be placed about their roots, which should consist of equal proportions of peat and sphagnum moss. After repotting, lightly spray the plants overhead morning and afternoon, but water sparingly, and give extra shading until the new roots have well taken to the fresh material. From then the plants should be freely watered and syringed, and gradually inured to more sunlight.

AIRING.

Sufficient air must be admitted by top and bottom ventilators to prevent the plants from scalding, carefully avoid cold draughts, and during windy weather it is best that the blinds be lowered earlier and less air admitted. *Dendrobium leeanum*, *D. statterianum*, *D. Goldiei*, *D. bigibbum*, and *D. superbiens* require the same treatment. As soon as the plants have matured their new pseudo-bulbs they will then have a long season of rest, but should not be subjected to the cool, dry treatment necessary for such species as *D. wardianum* and *D. nobile*. A temperature from 60° to 65° by night and 65° to 70° by day should be provided during the resting season, a moderately moist atmosphere, and sufficient water applied to the roots to prevent the bulbs from shrivelling.

DENDROBIUM FORMOSUM GIGANTEUM.

This is one of the most beautiful *Dendrobes* in cultivation; the flowers, which are produced at the top of the stems, measure from 4 inches to 5 inches across, their colour is snow white, with a broad blotch of rich orange-yellow on the centre of the lip. This species also requires a high temperature, a moist atmosphere, and a moderate supply of water at the root during the growing season, repotted when commencing to grow, and given a little shade until the plants have become well rooted; from that time the plants may be fully exposed to the sun, unless grown in the very lightest of houses, and then the blinds may be lowered for a short time during the hottest part of the day. When the plants have finished growth they have a long season of rest, and during that time should be given the temperature necessary for *Dendrobium Phalænopsis*, and sufficient water only to prevent the bulbs from shrivelling.

DENDROBIUM AGGREGATUM MAJUS.

This is a dwarf-growing evergreen species, the flowers of which are deep golden-yellow, with an orange-yellow stain at the base of the lip; large well-flowered specimens of this species have a very charming effect. The plants should be grown with the general collection of *Dendrobes* at the coolest end of the house, in a rather shaded position, upon a block of wood, and should remain undisturbed as long as possible. The plants should

have plenty of water at the root, and be freely syringed during the growing season. During the resting season the temperature of the Cattleya house is most suitable, very little water being necessary to keep the bulbs plump and healthy.

DENDROBIUM FALCONERII

is a handsome species of pendulous growth, producing large handsome flowers measuring 4 inches or more across, produced singly all along the leafless stems. This may be grown on blocks, rafts, or Fern stems, at the coolest end of the Dendrobium house, or a light position at the warmest end of the Cattleya house, and should be freely watered and syringed during the growing season. When the plants have finished growth the bulbs must be well ripened, and then have a long, cool, dry rest in a temperature of about 55° by night and 60° by day during winter, and sufficient water to keep the pseudo-bulbs plump.

F. W. THURGOOD.

FRUIT GARDEN.

FIGS.—POT TREES.

TREES that were forced early will now have finished cropping. I am aware some kinds will continue to bear if fed freely, but by taking a crop now their forcing qualities for early work another season will be greatly impaired. There is no better time than the present, that is, as soon as the crop is cleared, to replot the trees, especially if the plants are in small pots and a shift can be afforded. If potted now the new roots made will assist in building up the embryo fruits that will form for another season's forcing. By potting now, and paying a little extra attention to the plants in the way of syringing and shading for a short time, then gradually hardening off, the plants force more readily another season. I prefer potting now in preference to early in the season.

When starting the trees at this later period there is a danger of the plants casting the first crop. For pot Figs in large pots a liberal top-dressing may be sufficient, and here richer compost can be used than for younger trees given more root space. Trees in a fruiting state may be given a mulch of decayed manure. The growth should be kept hard stopped at the fourth or fifth leaf from the base, as there is a danger with pot culture of trees growing too much to wood and getting too large for the house. Even at this date I would advise shaping such trees by pruning, as done now there is time for the plants to mature new wood made.

PERMANENT TREES IN BORDERS.

With genial weather trees have of late needed much moisture, as the Fig does not do well in deep borders, and in shallow ones much more attention is needed when heavy crops are being carried. Strong shoots not required for extension should be stopped as advised for pot trees, and on no account allow a few shoots free play; this means loss of crop, and with trees in full vigour avoid crowding of shoots or overlapping. I have referred to watering, and few trees suffer like the Fig. From now until the crop is matured a good mulch of rich manure may be given. Of course, to trees at all inclined to grossness this advice will not apply. Such kinds as Negro Largo often grow too freely, and fruits sparsely if the roots are fed too much. Figs approaching the ripening state must have more ventilation and less moisture. Overhead syringing had better cease, but damp available spaces between the trees. Red spider is at times troublesome in dry houses; this can be checked by using a weak insecticide, or by mixing sulphur in rain-water and sponging the leaves. Scale is also a pest that reappears on old trees, and this is readily removed by frequent syringing with the above mixtures. Brown scale if allowed to spread soon infests the fruit.

PINEAPPLES.

The warm bright weather of late has caused rapid growth in the earliest Queen section. Fruits are of nearly full size, and more care will soon be required in watering. Food supplies should be stopped, but give sufficient water to allow the fruits to attain full size, as by keeping too much on

the dry side affects the size and flavour of the fruits. Later plants with fruits partially advanced may receive liberal treatment in the shape of food and moisture, but avoid excessive overhead syringing. Far better damp beds and borders freely, and keep evaporating pans full of water, closing as soon as the sun declines to save hard firing. Autumn fruiterers will be growing freely, and will take liquid food regularly if the roots are strong. The temperatures should be liberal, say, 70° to 75° at night, and the day temperature 10° higher. As regards ventilation it is well to give some air early in the day, as this promotes sturdy growth. Succession plants needing a shift should be potted into their fruiting pots. I do not advise too much pot room, 11-inch or 12-inch pots are quite large enough for the Queen section. As soon as fruits are cut any good sucker growth should be encouraged and potted on at the first opportunity. These when given good culture make fruiting plants next season.

Syon House Gardens, Brentford.

G. WYTHES.

THE FLOWER GARDEN.

PLANTING.

WHEN the bulk of the work of planting "bedding out" plants has been completed, attention should be turned to the planting of various things which have been forced and which will succeed in the outdoor garden. Among the *Mollis Azaleas* bought in for forcing will be found a few of such good and distinct colours that they pay well for planting as permanent occupants of the garden, and as they succeed admirably in semi-shaded and sheltered spots beneath tall trees, they may be made to fill positions that, without them, or some other shade-loving shrubs, would be blank and uninteresting. It is a mistake to suppose that these *Azaleas* require a peaty soil. They do admirably in loam, and, indeed, in almost any soil that is not absolutely bad. As a rule, the flowering season is rather a short one, but the flowers endure much longer when planted where direct sunlight does not fall upon them.

Among other plants that should be saved for planting out are the *Daffodils* and some of the *Polyanthus Narcissi*. Nooks on the fringes of shrubberies may be filled with them, but perhaps the best position of all is in grass which is not cut till late in the season, for here the leaves have a chance of ripening. If the bulbs have been hard forced, or, rather, flowered very early, the results will not be very good next year, as they want a season in which to recuperate, after which they will give a fine annual display and large quantities of welcome flowers for cutting. I like best to see these grouped, say, from 50 to 100 of one variety together rather than scattered indiscriminately. Nearly all the *Daffodils* may be depended on to grow well in grass, but among the *Polyanthus Narcissi* only the stronger growers do really well, the best to my knowledge being *Grand Monarque* and *Gloriosa*. *Soleil d'Or* does fairly well, but I have never seen any good come of planting *Scilly White* or any of its class.

Winter *Aconites* (*Eranthis hyemalis*) may be planted now, and, if judiciously used, what areas of uninteresting ground under trees might be covered at very little expense with these early-flowering gems. I have found them do admirably under tall *Beeches*, and in such a position the flowers last longer and are drawn up on much longer stems than when planted in the autumn. The tiny corms are difficult to find when the leaves have quite disappeared, as they are earth-coloured and irregular in shape. They should be planted about 1 inch deep, and, to form a good carpet, 8 inches apart. *Sternbergia lutea* is such a charming little bulbous plant that everyone should grow it, and now is the time to order bulbs of it.

RHODODENDRONS.

After an abnormally dry spring such as this has been it is a great relief to the plants to divest them of the flower heads directly these have faded to prevent the seed pods from swelling and taking away the strength of the plants. Of course, this is hardly possible where the plants are very large

and many of them, but young bushes of the best varieties should certainly be attended to.

SWEET PEAS AND CANARY CREEPER.

In dry seasons Sweet Peas go off early in spite of all attention that they may get in watering, and they then look unsightly. This may be obviated to some extent by dibbling in now among the young plants a sprinkling of Canary Creeper seeds, as the plants so raised will clothe the sticks with nice fresh greenery, and flowers when the Peas are over.

Watering must be carried on vigorously all round unless there is a great change in the weather, and especially among newly-planted evergreen shrubs, beds of *Tritomas*, &c., in addition to the ordinary plants in the flower garden.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

KITCHEN GARDEN.

SEED SOWING IN DRY WEATHER.

It frequently happens at this time of the year, when many small seeds should be sown, that the ground is so dry as to render it almost useless to sow without first watering the soil, and this should be done the evening previous to sowing. First of all the ground should be dug and trodden moderately firm, and the drills drawn at the required distance apart and well watered, for it is better to water the soil before sowing and cover afterwards than to sow and water on the same day. Early morning is the best time to sow light seeds, for it is generally more still than when the day advances; if some covering for the beds can be afforded it will greatly assist germination. Mats may be pegged over the surface of the soil and left until the seeds germinate. Thus treated seeds will soon vegetate, when the covering may be removed, and if the weather continues dry they may be sprinkled each morning before the sun becomes strong enough to injure the young plants while the water still remains on their foliage.

FRENCH BEANS.

The first sowing of this important vegetable being well advanced, another should be made in order to keep up an unbroken supply. The ground on which they are to be grown should be rich, but any situation in the open garden will suit them now. Canadian Wonder is one of the best varieties for sowing at this time, being a free and continuous cropper. If the season is favourable this variety will produce abundance of fine pods the greater part of the season, providing they are kept closely picked. It is of great importance to gather the Beans as soon as ready, whether they are wanted or not, for if left on the plants until the seeds become hard they will soon ruin the prospect of a continuous crop. *Magnum Bonum* is also an excellent variety for sowing now. Both these varieties should be sown in rows 2½ feet apart, and if the weather continue dry they should have liberal waterings of liquid manure to keep them growing freely. A few of the Dwarf Butter Bean should also be sown and treated in the same way. Rows of

SCARLET RUNNERS

should be examined, and if any have failed to germinate, the blanks should be filled up by plants raised in pots. There are few vegetables pay better for liberal treatment than Scarlet Runners, and one of the most common mistakes one meets with is that of planting too close together. When it is found that the plants have made a good start they should be thinned to 15 inches or 18 inches apart and staked, after which they should be well mulched with long litter to protect them from the effects of strong sun. Where large quantities are required another sowing may yet be made, which should carry on the supply until the autumn frosts destroy the plants. Make further sowings of *Victoria Spinach*, choosing a north border or other shady situation for the purpose. If

NEW ZEALAND SPINACH

is not already sown, no time should be lost before it is. The rows of this should be kept well moistened until the young plants make their

appearance, when they will soon produce abundance of green leaves, which will last the season through.

TURNIPS

should be sown fortnightly in order to keep a regular supply of tender young roots. The young plants should be frequently dusted with wood ashes or soot and lime mixed together, which is the best thing to keep off Turnip fly, so troublesome at this season of the year.

Make frequent small sowings of Lettuce while the warm dry weather continues, choosing a rich north border for the purpose. I have found Green Unctuous, Veitch's Perfect Gem, Brown Cos, and Sutton's Mammoth White Cos the best varieties to stand in dry seasons.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

INDOOR GARDEN.

WORK IN THE FRAME GROUND.

THE bulk of the bedding plants until now occupying the frames and pits will by the time these lines are in print have been disposed of in the various flower beds and borders; the use of these is now had for the summer months, and for many subjects they are admirably adapted. They supply a cool and moist condition beneficial to most plants, which is not available in a house. Primulas and Cinerarias delight in the cool standing here afforded, as also do Cyclamens, and much of the success attained in the growing of this subject can be readily traced to the summer conditions. Begonias are peculiarly partial to frame treatment, and must also be located here. Bouvardias at the present stage will do well in similar quarters, and other plants too numerous to mention. As the structures are emptied they should be well washed out; if built on brick walls then let this surface have a good coat of hot lime, and as a bottom I find nothing better than sifted ashes, over which I take the precaution to place a dusting of soot, as this helps to keep worms in check. It is also important that all broken glass be made good, as with a rainstorm damage to plant life is sure to follow if means are not taken to prevent it. As before advised, I much prefer to use mats or any shading other than permanent darkening.

FLOWER HOUSES.

With a high temperature and a rough east wind prevailing for over a week, many subjects did not maintain their usual period of flowering, but were simply hurried over, adding to the work in their removal and subsequent replacing. This has been most noticeable in the Mollis Azaleas, which came rapidly into flower in the open ground. Any plants yet unflowered in this and the indica section may be retarded by placing them in a position removed from the sun's rays, on a north aspect, and liberally syringe them over several times a day. The same remarks apply to stage Pelargoniums, or, in fact, any greenhouse plant which it is intended to keep back.

WATERING.

A word of caution may not be out of place at this season. The external conditions demand that a greater amount of moisture must find its way to the root to sustain life, and, while this is afforded,

care should be taken that the roots are not unduly soured by a too frequent use of the water-pot, a condition which is sure to follow if the water is not judiciously administered. Where water is taken from the main service it is well to have, where possible, large receptacles to hold it in, and it is a decided advantage when these are so placed that their contents are affected by external atmospheric and solar influences; this reduces the chances of injury by watering to a minimum. J. F. McLEOD.

THE FOLIAGE BEGONIAS OF THE REX-DIADEMA SECTION.

BEAUTIFUL as some undoubtedly are, foliage Begonias of the Rex type pure and simple appear

Illustrated Dictionary of Gardening," gives as being probably a hybrid between *B. richardiana*, a native of Natal, and an Indian species named *B. dipetala*, or *B. ricinifolia*, a garden hybrid between the old and well-known Mexican *B. heracleifolia* and *B. peponifolia*. The results of these crossings and inter-crossings have been the production of a whole series of plants which, in a great measure, partake of the habit and silver colouring of *B. Rex*, while the shape of their leaves is totally distinct. As will be seen by the accompanying illustration, for which we are indebted to M. H. Martinet, Directeur-Rédacteur of *Le Jardin*, these are deeply cleft and very variable, and we may say that in some cases they are nearly palmate. Their colouring also greatly varies from the pure silvery white of the ordinary heart-shaped *B. Rex* to the Chameleon-like colours of the ever charming *B. Louise Chretien*. The most noteworthy among these Begonias are Burgo-master Peppel, Bertha MacGregor, Gloire du Vésinet, Kahrolin Schmitt, Louis Cappe, Louise Chretien, Louise Closon, Mme. Alamagny, Mme. Patry, Mme. Treyve, President Deviolaine, and President Truffaut, all of which well deserve the attention of the growers. All these hybrids are endowed with a vigorous constitution, a quality which enables the cultivator to produce comparatively large plants in small pots, and the culture of all the plants belonging to this interesting section is, like that of the old *B. Rex* itself, so simple and easy that it is safe to state that these hybrid varieties have a great future before them, even if only considered as purely decorative plants.

G. SCHNEIDER.



A HANDSOME BEGONIA OF THE REX-DIADEMA GROUP.

to have of late been somewhat neglected, probably on account of the great similarity of shape and colour of the foliage of many varieties formerly grown in this country. Since, however, the hybridiser has devoted his attention to this class of plants, quite distinct varieties have appeared on the Continent. Besides the series of beautiful plants produced by the crossing of varieties of *B. Rex* with *B. decora*, a description of which appeared in *THE GARDEN* of May 25, M. Cappe has brought out another series of highly decorative varieties, most of which show very plainly, even to the amateur, the influence of the other parents. These are either *B. Rex-diademata*, which Nicholson, in his splendid work "The

it is mentioned that the superintendent, Mr. C. Ford, F.L.S., left for home on March 31 on six months' leave on account of sickness, and his leave was extended for another period of six months from the end of September.

Plant sales continue to increase, as during the year 3,451 plants were disposed of, being an increase of 641 over the previous year's sales. Of these nearly 3,000 were sold for decorative purposes, no less than 2,042 Maidenhair Ferns being included in this number, of which 1,370 were the ordinary *Adiantum cuneatum*.

The sale of plants was instituted in 1884 to supply the public with rare and newly-introduced plants (C.S.O. 185/1884), but very few of the plants sold now come under this category. The introduction, propagation, and growing of plants for

FOREIGN NOTES

BOTANICAL WORK AT HONGKONG.

WE have received from Mr. W. J. Tutchter, the acting superintendent of the

Botanical and Afforestation Department for 1900, the following interesting report, in which



WHITE PINKS WITH EREMURUS HIMALAICUS.
(From "Gardening for Beginners.")

distribution for economic purposes is undoubtedly one of the first duties of a botanical department, but the cultivation and sale of plants for decorative purposes should be undertaken by private individuals.

Among the visitors during the year were Mr. Peter Barr, of the well-known firm of Messrs. Barr and Sons, bulb and seed merchants, London; Mr. D. F. Fairchild, of the United States Department of Agriculture, who was here making investigations in regard to economic plants natives of China likely to succeed in different parts of the United States; Mr. B. Hayata, a student of the Imperial University, Tokyo, who came for the purpose of study in the gardens; M. Sauvale, an official of the new French colony of Kwong Chau-wan, who came up to make enquiries as to the most suitable trees for planting at that place, and also as to what economic plants would be likely to succeed there; Mr. E. M. Wilcox, Travelling Fellow in Economic Botany of Harvard University; Mr. E. H. Wilson, of Messrs. J. Veitch and Sons, the eminent firm of nurserymen, London.

In the beginning of the year caterpillars (*Metanastria punctata*, Walker) were discovered on Pine trees in various parts of the island, and the superintendent at once made plans for coping with the pest by inviting Chinese coolies to collect at a certain price per catty. The caterpillars were more prevalent on the Shun Wan peninsula, near Aberdeen, and on Aplichau Island than elsewhere, and at these places 7,030 catties, or nearly 4½ tons, were collected, at a cost of \$447, during March.

In May they again became troublesome, and during that month and the following 409 catties were collected at Aberdeen and Aplichau, and 500 catties at Kowloon. Towards the end of July the second crop appeared at Kowloon, and during that month and August a further quantity of 226 catties was collected.

The widening of Queen's Road made it imperative that the large Banian trees (*Ficus retusa*) growing in front of Wellington Barracks and in front of the Naval Yard should be either cut down or transplanted. On account of the great age of the trees (they were probably growing there when Hongkong was a fishing village) it was a serious problem as to whether they would survive transplanting, but I decided to make the experiment. Several of these were nearly 100 feet high, with trunks 2 feet in diameter at 4 feet from the ground. I had them all lopped to within 15 feet or 20 feet from the ground, and then bound round with straw before attempting to remove them. When

their respective sites had been prepared they were moved with balls of soil and roots, 8 feet to 12 feet in diameter, by means of wire ropes and derricks. After they were in position the soil was filled in around the roots; they were then watered and the trunks and branches kept constantly wet. Syringing was also carried on during removal. There were altogether thirty-five trees treated in this way, and I am glad to say that they are all starting to push forth new growths.

As there is a considerable quantity of agricultural land in the new territory, I would strongly recommend the establishment of an experimental garden for testing economic plants likely to succeed in the district. The Chinese themselves are not likely to take the initiative in introducing new industries, but if this department were to show them that certain plants could be grown with success no doubt the natives would then take to cultivate such plants. The Japanese in Formosa have already established experimental stations, and the French at Kwong Chau-wan and the Germans at Kiaut-chau have also under consideration similar schemes.

There are many kinds of fruits which could be grown, and if this were done we should not only have better varieties than those already in the market but new kinds as well. Agave sisalana is a plant likely to succeed here, and although Sisal Hemp is not such a good fibre as Manila Hemp, it is one which will well repay cultivation.

[These are a few extracts from Mr. Tutchers report. Mr. Tutchers is one of our most valued

correspondents, and the Hongkong Botanic Garden is one of the most interesting and important of those outside England.—Eds.]

CHRYSANTHEMUMS.

PLANTING EARLY-FLOWERING VARIETIES.

BY the warm weather which set in during the third week in April some growers were tempted to place their plants in the flowering quarters. The cold easterly wind which succeeded the welcome genial weather, however, has since given such growers much concern. Small plants only partially hardened off have been the first to suffer. In some instances they have lost much of their foliage. These facts prove the folly of commencing to plant thus early in the season. Experience has taught one that the month of May should be well advanced before planting the beds and borders, the third week in this month being a good period. Generally speaking, there is little risk of severe frosts then. It is astonishing what rapid progress the young plants make when once they are planted out. A plant with a single stem at the time of planting soon develops branching growth. Some growers advocate enriching the soil by liberal application of manure when tilling the ground intended for the reception of the plants, but with this I do not agree. Soil of too rich a character invariably encourages gross and unwieldy growth, and in consequence the result is that the flowering period is not so pleasing as it might otherwise be. Ordinary garden soil which has been deeply dug after a previous season's crop has been secured answers well. Such ground is usually in mellow condition. It is my practice to devote a new piece of ground to the culture of early-flowering Chrysanthemums each season, and the method of planting above advocated is the one consistently followed.

Many make the mistake of planting too closely. The majority of the Japanese sorts are of branching growth, and to do them justice quite 3 feet between the plants and a similar distance between the rows should be allowed. Take that excellent sort Mme. Marie Masse and its sports Crimson Marie Masse and Ralph Curtis. These plants easily fill up the space just mentioned. Except in a few instances the Pompons should have less room. Two and a-half feet between the plants and a similar space between the rows should suffice in most cases. Exceptions to this rule which I have in my mind at the moment are Mrs. Cullingford and its sport Miss Davis, Yellow Gem, and Crimson Precocite. These four sorts make handsome bush plants, and for this reason should have an interval of 3 feet between them. Firm planting is essential.

Although the Japanese varieties are very showy and make an excellent impression when the weather remains fine, the Pompons behave better in wet weather, suffering little or no inconvenience.

D. B. CRANE.

BOOKS.

Gardening for Beginners.*—This is the title of a new book for beginners in gardening, and is, indeed, a thorough handbook to the garden, comprising within its some 500 well printed pages, an amount of information which must surely satisfy not merely the novice, but those who have already begun to follow this health-giving pastime. We give two of the 100 illustrations from its pages, printed upon art paper, to show their character, and besides these there are nearly 100 diagrams in the text explaining certain garden operations, such as layering Carnations, budding Roses, and such-like, without which it is difficult for the beginner to understand the way to proceed under certain

* "Gardening for Beginners." By E. T. Cook. Published by George Newnes, Limited, Southampton Street, Strand London. Price 10s. 6d. net.

conditions. The book has been published at the request of many readers of *THE GARDEN* and *COUNTRY LIFE*. It forms part of that important library attached to the latter paper, a library being gradually added to by standard works on gardening and country pursuits. The book opens with a preface by Miss Jekyll, author of "Wood and Garden," &c., who gives wise advice to the beginner, and then follows a description of good garden flowers: Hollyhocks, Sweet Violets, the Aquilegias, and the many other groups that contribute to the beauty of the border and flower bed. Trees and shrubs have been made a strong feature, the author knowing how great an interest is taken in these at the present time, and it is to be hoped that the interest now evident will strengthen. There are many useful hints, such for example as the way to make shady banks beautiful, how to make a pergola, and an excellent gardening chart, which comprises a most exhaustive list of tables, such as the best rock and border plants, fruits, vegetables, and everything practically that is likely to instruct and interest the beginner. It must be confessed that those who have advanced some steps in gardening will find much valuable information, which is readily discovered through an almost exhaustive index. The whole range of garden practice has been considered, from the border flower to the destructive insect pests, even Water Lilies for tanks, the best Orchids to grow, greenhouse flowers, stove plants, and, of course, a long and interesting chapter upon Roses. It is a handsome gift book, and a book to have ready at hand in planning, altering, or planting a garden.

—H. H.

A Garden Diary.*—There are thousands of readers of the better class of book who are alive to the influence of the beauties and delights of wood and wild and garden ground, and who truly feel, with purest pleasure and heartfelt thankfulness, their beneficent influence at the moment when Nature's good gifts are presented to their bodily perception and their spiritual intelligence. But in general these delights of the living world come and go and are meanwhile forgotten, and it is given only to such an artist-author as Miss Lawless to record them and to pass them on to others through that fine intelligence, that by its own highly-trained and therefore almost unconscious act winnows away the husk and casts aside the worthless, and, treasuring the golden grain presents it as the best of food for the refined mind. So we have in short chapters, each the story of some walk in wild or thoughtfully-tamed ground, written in a time of deep personal and national anxiety, the impression of wonder and happiness in the beauty of simple growing things, and through it all—as in those still days of sunlight and song of bird and loveliness of flower beauty, when dark cloud shows on the horizon and thunder mutters in the distance—through it all—the ever-present haunting shadow of the war.

The Compleat Angler.†—This new edition of Walton's immortal work is a charming production, with a preface by Andrew Lang, and numerous illustrations by E. J. Sullivan. "Waltonians" will enjoy this new volume, so daintily illustrated and well printed.

NURSERY GARDENS.

MESSRS. WM. CLIBRAN
AND SON.

HARDLY more than thirty years has the nursery of Messrs. Clibran and Son been established, yet in so short a space of time a horticultural establishment, now extending over more than 300 acres of land and employing quite 300 men has been formed. Messrs. Clibran's principal nurseries are at Altrincham, distant only seven miles from Manchester, and

one of the most flourishing suburbs of this city. They are conveniently placed, for they are but fifteen minutes' walk from Altrincham Station—Manchester and Altrincham Railway—ten minutes' walk from Broadheath Station—London and North-Western Railway—and fifteen minutes' walk from West Timperley Station—Cheshire Lines Railway. In addition to the Oldfield, Hale and Cemetery, Stamford and Carrington Nurseries, all situated near Altrincham within easy reach of each other, Messrs. Clibran have seed trial grounds at Urmston, near Manchester, and a branch nursery and seed establishment in North Wales. Whilst speaking of Wales it might be mentioned that within the last few years Messrs. Clibran have carried out extensive planting operations on the hills there on behalf of the Government.

The greenhouses cover no less than five acres of ground, and, as may be surmised, contain an astonishing number and variety of plants. Everything that one could think of as useful for decorative purposes, whether in the stove, greenhouse, or home is to be found here, and none perhaps are more worthy of primary mention than the splendid collection of

CODIÆUMS (CROTONS).

They are represented by plants in all stages of growth, from those recently propagated to giant specimens retained for stock purposes. So numerous are the varieties that we can only refer to a few of those that by reason of their brilliant colour and attractive marking were particularly noticeable. A. Pettigrew (Clibran) is a handsome new variety with medium-sized foliage, sturdy habit, and in colour one of the finest yellows we know. Baron F. Salier has long broad foliage, the midrib and veins in gold and crimson being very effective. Clibran's Silver is a robust grower, has broad leaves that are streaked with silver along the midrib and margined with green. Masterpiece is a most distinct variety, and a welcome addition to the list of new Crotons. The leaves are pendulous, beautifully twisted, in colour yellow and dark green. Of narrow-leaved varieties, Mrs. Clibran, richly variegated with deep red and yellow; Oldfield Gem, ivory lemon and red; Mrs. Lewis, bright yellow, of compact and graceful habit; and Pride of Oldfield, whose mottled yellow lemon foliage is occasionally interrupted, are a few of the best; innumerable others there are, however, well deserving of detailed mention. The stove

DRACÆNAS

are well represented, and in a collection like Messrs. Clibran's one can see these invaluable plants at

their best. Of the dwarf-growing, highly coloured ones Lord Wolseley is to be recommended, the youngest leaves are a rich crimson-carmine, the older ones a bronzy green with a crimson border. D. indivisa Doucetti is a splendid Dracæna, and has the advantage of thriving well in a cool or intermediate house. It reaches a good height, is of very graceful habit, and the green leaves are broadly margined with white. In their collection of stove and greenhouse plants Messrs. Clibran have many that are, unfortunately,

BUT SELDOM SEEN

in our glass houses, although some are so beautiful that it seems a great pity that they should be practically lost to cultivation. Of such plants we noted the following:—*Clerodendron splendens* speciosissima, a stove climber bearing lovely orange-scarlet blossoms; *C. fragrans flore pleno*, with white flowers very sweetly scented; *Cassandra undulæfolia*, that has handsome dark green foliage and pretty salmon-tinted flowers; *Tabernaemontana coronaria fl. pl.* with deliciously scented white flowers, should be in every collection of stove plants; *Medinilla magnifica*, *Medinilla Curtisii* a dwarf plant bearing flowers about $\frac{1}{2}$ inch in diameter, the corolla being ivory white, and much beautified by the tuft of purple stamens; the white variety of *Acalypha sanderiana* was pointed out, and several very pretty varieties of *Vinca minor* were noticeable. These make charming little specimens, flowering so freely as they do, and comprising several very good varieties; *Posoqueria multiflora* has loose heads of tubular white flowers sweetly scented. *Convolvulus cneorum*, with its silvery



ROSE REINE OLGA DE WURTEMBERG ON A BALLOON-SHAPED TRELLIS.
(From "Gardening for Beginners.")

* "A Garden Diary." By the Hon. Emily Lawless. Methuen and Co., London, 1901.

† "The Compleat Angler." Published by J. M. Dent, Aldine House, London. Price 4s. 6d. net.



ZONAL PELARGONIUMS IN MESSRS. CLIBRAN'S NURSERY.

leaves and white blooms, is very attractive, as also is *Tremandra verticillata*, a hard-wooded greenhouse plant bearing beautiful blue flowers. Such are a few, at least, of those deserving plants in danger of being forgotten altogether, and Messrs. Clibran are doing a very good work in essaying to again place them before the public.

URCEOCHARIS CLIBRANI

is, as one would expect, well in evidence. This plant was raised by Messrs. Clibran between the yellow drooping flowered *Urceolina aurea pendula* and *Eucharis amazonica*. The flowers are pure white, and borne well above the foliage on long stems. For decorative purposes, more especially as a cut flower, it is, like the *Eucharis*, most useful. One seldom sees *Daphne indica* and *D. indica rubra* in such rude health as they are at Altrincham, for many find a difficulty in successfully cultivating this plant. The stove

ANTHURIUMS

are indispensable plants, their spathes remain bright for months together. Among the many well coloured varieties now in cultivation it would be difficult to find one to surpass in brilliancy of colouring one introduced by Messrs. Clibran, and known as *Fletcherianum*. It is of the *Andreanum* type, and the spathes, more than 7 inches long, are of a rich glossy dark crimson. Of the whites, *A. Laingii* is undoubtedly the best. The spathes are 6 inches to 8 inches long, and ivory white. The spadix is of a rich flesh colour. Although the *Primulas* and *Cyclamens* were practically quite over at the time of our visit, one could form an opinion of the picture they must have been by the seed pods innumerable which the plants are now bearing. It was not too late, however, to see *Primula* Mrs. Clibran, a fine double blush, and *Oldfield Blue*, an excellent single. The stock of *Camellias* is a large one, and consists of plants of many different sizes, from those in 6-inch pots to giants planted out, and from which cut flowers and grafts are obtained.

CARNATIONS,

both border and tree varieties, are a speciality at Altrincham, and are represented by a very extensive collection of plants. Several new Carnations have recently been raised by Messrs. Clibran, one of which, *Miss Clibran*, was in flower, it is a rich bright rose in colour; *Carnation Mrs. Weller*, with a yellow ground, striped carmine pink, is also an excellent novelty. The *Calceolarias* are exceedingly fine, both as regards the culture of the plants and the form and colouring of the individual

flowers. The *Horned Calceolaria* (*C. cornuta*) that Messrs. Clibran have is decidedly interesting; on both sides of the top of the pouch are small "horns," hence the above name. *Cinerarias*, of both the greenhouse and cruenta types, are extensively cultivated, as well as a vast array of

ZONAL AND FANCY PELARGONIUMS.

The Fancy Pelargoniums now just opening are rich in good things—*Oldfield Defiance*, *Lady Wyndham Quin*, *H. H. Thomas*, and several unnamed seedlings were noticed.

It would take long to refer to all the principal genera that with Messrs. Clibran are represented, but the accompanying illustrations will give some idea of the extent to which certain classes of plants are cultivated. *Magnolias* in pots are very good, and the best of all perhaps is *M. Lennei*, that bears large flowers, the exterior of whose petals is a rich purple-pink, so that this *Magnolia* in the bud state is particularly beautiful. *Cupressus macrocarpa lutea* is grown in large quantities, and

is undoubtedly the best of the yellow conifers. *Roses* and *Clematises* in pots, the curious

JAPANESE FERN BASKETS

in a great variety of shapes are all full of interest, and if such were possible should be more fully referred to. Mention has not been made of the extensive and representative collections of Conifers, hardy evergreen and deciduous shrubs, ornamental flowering trees, *Rhododendrons*, fruit trees, herbaceous plants, &c., each of which class of plants has many acres devoted to its culture. The *Rhododendrons* alone, for instance, cover about 30 acres of ground, and in a very short time this quarter of the nursery will be a picture of beauty. Particularly fine are the specimen

HOLLIES

of which Messrs. Clibran have one of the finest collections in the country. These are cultivated at the Hale Nurseries, Altrincham, and comprise plants varying from 2 feet or 3 feet in height up to grand specimens quite 15 feet high; these, however, may be removed with perfect safety, owing to the regular methods of lifting and transplanting adopted. Well grown and shapely Hollies are indispensable to the embellishment of a garden, and with the many beautiful varieties, both of the green and variegated leaved sorts that are now to be had, a selection, representing great variety of colour and form can be made.

THE FRUIT TREES

also are well in evidence; 50 acres or more are given up to their culture, and, in addition to a large stock of standard and bush Apples and Pears, the trained specimens of these, as well as of Cherries, Peaches, Nectarines, &c., is very considerable. These also are grown at the Hale and Cemetery Nurseries; indeed, the ground here is almost entirely devoted to the cultivation of forest trees, shrubs, and fruit trees.

In Water Street, Manchester, Messrs. Clibran and Son have farm and garden seed warehouses, while in Market Street this firm has a very large bulb, seed, and cut flower business. Cut flowers are grown in the *Oldfield Nurseries*, and the accompanying illustration of a house of *Lily of the Valley* shows what great quantities are required to meet the demand. Messrs. Clibran informed us that they have not been without *Lily of the Valley* since September last. Such is a brief and by no means exhaustive description of one of our leading nursery firms, remarkable for the rapidity with which it has developed, and for the progressive policy with which the development is maintained.



LILIES OF THE VALLEY AT MESSRS. CLIBRAN'S.

NOTES FROM SCOTLAND.

MR. COWAN'S GARDEN IN DAFFODIL TIME.

PERHAPS the one place in Scotland that the newest Daffodils are to be found growing side by side with the best of the older varieties is in the gardens of Valleyfield House, Midlothian. I found them in perfect condition in the first week of May, when, with Mr. Cowan, two hours were profitably spent discussing matters concerning Daffodils in particular, and horticulture in general.

With some two exceptions, the whole of the varieties and species are in the best of health, and show perfectly the characteristics of the several kinds. One of the bad doers here is, strangely enough, Countess of Annesley, but against that there are magnificent examples of *Ajax maximus*, though Mr. Cowan modestly attributes his success with this to the strain being an Irish one—Mr. Hartland's. Other sorts that have acquired a disagreeable notoriety in Scotland for difficulty in culture are here growing and flowering equally well. Such, for example, are Princess Mary, Duchess of Westminster, Van Sion, and *Pallidus præcox*, than which nothing could be more satisfactory. All the newer varieties are doing well, and with the exception of *Apricot*, which is by no means an acquisition as seen at Valleyfield, all possess some commendatory points. Of the Trumpets, Prince Alfred, reminiscent of *Maximus*, is remarkable for the lengthened and stout stalk which carries its fine flower. Willie Barr is smaller but very free. Queen Wilhelmina, a soft tinted bicolor, is very attractive, the trumpet having a peculiarly glittering appearance. The bold Glory of Leiden grows here most vigorously, and Shakespeare is another of De Graaf Brothers' seedlings that promises well.

Here we have also Weardale Perfection, Mme. Plomp, and Monarch each in perfect condition. Mr. Cowan names J. B. M. Camm as a favourite, and he has, as a matter of course, quantities of Emperor, of Empress, of Grandee, and a very fine form of the early-flowering Princess, which, like *Maximus*, is an introduction from Ireland. Of white Trumpets, Snowflake and Exquisite are pretty, but Mme. de Graaf is less good than usual.

Among the star-flowered forms, Burbidgei Vanessa and Incomparabilis Ossian were still in the bud, therefore both of much value to those who require a long-continued season of Daffodils for cutting purposes. Of those in flower mention may be made of Mary Cowan, with a full yellow chalice and broad white segments, Incomparabilis, King of the Netherlands, a really beautiful and distinct form. Queen Sophia in this section was equally fine. The Leedsii section was well represented by all the good kinds, such as Minnie Hume, Mrs. Langtry, Duchess of Westminster, Katherine Spurrell, and other fine varieties. Backhousei as grown here is a desirable sort, and Barri conspicuus maintains its character as a first-rate kind.

All Messrs. Veitch's new hybrid Polyanthus forms are on trial, and doing well. Mr. Cowan thinks very highly of Starlight with a poeticus bloom. The kind that proved most attractive to myself was, however, Lydia. All, however, are well worth attention by gardeners to cultivate for cut flowers.

In addition to the numerous Narcissus cultivated under the best conditions, many groups are planted under trees on the steep sloping banks on one side of the garden, and, as a matter of course, quantities are in pots, but from the appearance of those of the present year the latter are not subjected to forcing.

Though the extent of garden ground is restricted, Mr. Cowan has made room for a good sized pergola on which to grow climbers, herbaceous flowering plants flank it on each side, and a kind of supplemental pergola serves as an approach to one of the garden gates. Roses—large bushes of Penzance Brier and Tea and other climbing Roses on walls—are much in evidence, where they appear to have

ousted fruit trees, and, not content with high walls, wires are attached to trees beyond to tempt the more rampant sorts to mount beyond the shelter of stone and lime. Herbaceous plants and hardy bulbs are largely cultivated, alpine plants more sparingly, and a long border is furnished with Carnations.

I also had the pleasure of a run through the garden of Mr. Cowan's son, which adjoins that just described. Here the greater portion of the ground available for gardening is arranged as rockeries. As a whole it may, indeed, truly be described as a huge rock garden, and just as Daffodils are the chief feature of the former, so are all kinds of hardy alpine, shrubs, and bulbs treated in this. In a fast running stream a number of tubs are arranged, but only partially submerged, and in these moisture-loving plants are cultivated, and among them a *Phyllostachys*, which, after experiencing 20° of frost a few weeks ago, does not look at all happy.

R. P. BROTHERSTON.

EDITORS' TABLE.

DWARF BEAN SUTTON'S PERFECTION.

This is an excellent variety for outside or inside culture. It is not claimed to be an early kind, as there are others more suitable for that particular purpose, but for following early sorts or for a general crop it is very good indeed. The raisers say that it keeps for a long time without going string-like—a fact worth knowing in hot and dry weather, and which I have proved to be the case. In flavour and appearance it is unsurpassed, and deserves to be more widely known.—J. G., *The Retreat, Cam, Gloucester*.

[A boxful of pods came with this note. We tried them and found them excellent.—EDS.]

CYTISUS ANDREANUS FROM SEED.

"J. A. A." sends flowers of *C. andreas* to show the great difference that exists in seedlings. Our correspondent writes: "Among several large plants raised by me from seed there is one very striking kind, the colour of the flowers being almost dark orange; it is also about a week earlier than the rest. The flowers are extremely effective in a large mass, when it looks quite different from the ordinary variety." A very beautiful form indeed, with graceful shoots covered with rich orange-brown coloured flowers. A seedling to take care of.

HEPATICA TRILOBA ALBA PLENA.

A very pretty and rare flower from A. M. C. van der Elst, the Tottenham Nurseries, Limited, Dedemsvaart, near Zwolle, Netherlands, with the following note: "Although this plant is not altogether a novelty, and on various occasions single examples of it have been found, it has never been cultivated to any extent. Our stock, comprising some 700 plants, has been derived from a single plant found several years ago in the Hazz Mountains by the son of a nurseryman." We welcome, indeed, a plant with flowers so pretty as those of this double white Hepatica, and those interested in alpine should make note of it.

SPURRED COLUMBINES.

Mr. Lindsay Bury sends from Wilcot Manor, Pewsey, Wilts, a series of Spurred Columbines in delightful colourings. No prettier flower graces the garden at the present moment than the Columbine raised from a carefully chosen strain in which the flowers are spurred and of many colours—soft rose, apricot, yellow, and an intermingling of shades, reminding one of some delicately tinted Tea Rose. Such a gathering of flowers is a pleasure to have upon our table.

Mr. W. E. Gumbleton sends from his garden near Queenstown, Ireland, an

INTERESTING SERIES OF DEUTZIAS, comprising the following varieties: *D. Lemoinei*.—Clear warm white of the yellow-white colouring,

well filled but not crowded spikes; the anthers are lemon-yellow. *D. discolor grandiflora*.—The backs of the petals have a rosy tinge; the calyx, peduncle, and stem are also tinted with warm colour. *D. discolor purpurascens* "species" (?)—A bold rose-white flower, rather heavily coloured outside; the white winged filaments and strong yellow anthers give the flower a very bright appearance; buds rose-coloured, peduncles and calyx also reddish. *D. gracilis campanulata*.—Flowers large, clear white, slightly nodding, peduncle red-tinted, anthers deep yellow. *D. gracilis rosea*.—A very dainty flower tenderly flushed with pink. *D. gracilis carminea*.—Much like *D. discolor purpurascens*.

A GOOD WINTER WALLFLOWER.

"B. M. B." sends from near Bedford flowers of Barr's Extra Early Parisian Wallflower, a pretty deep yellow flower veined with red-brown. The whole flower is much enriched by the petals being backed with a rich mahogany tint. A letter accompanying the flowers says:—"It has been in flower in my garden for nearly ten months without intermission. The seed was sown early in June last year, and the seedlings began to bloom before August 10. Some were transplanted and some left where sown, and all were equally valuable in giving cut flowers for the house and affording a patch of bright colour right through the winter. In very cold weather the plant droops, but revives at once when the temperature rises, and the buds do not seem to suffer. We had frequently 15° or 20° of frost. Few things in my garden give me greater pleasure, and I find many people are unacquainted with it."

SOME RARE IRISES.

"T. C. L." sends from Kent blooms of four uncommon and interesting Irises, namely, *I. Purdyi*, a flower of moderate size and of remarkable colour, a pale nankeen, the falls veined with red-purple; *Iris humilis*, much of the same class as the well-known *I. graminea*; *Iris tenax*, flowers about 2½ inches in diameter, bright and rather light red-purple, white to the base of the falls, where it is veined with a deeper shade of the same purple, leaves pale green, linear; *Iris prismatica*, a very beautiful flower 3½ inches across, of a splendid deep violet-blue colour, wonderfully varied on the half of the falls nearest their base by passing into a greenish band edged with brown, spotted and veined with darker markings. These are all beardless Irises.

FLOWERS FROM IRELAND.

We receive from Mr. George Walpole's beautiful garden in County Wicklow the following flowers: A large-flowered variety of *Clematis montana*, with blooms 3¾ inches in diameter; a branch of *Tricuspidaria hexapetala*, with its bright scarlet hanging flowers on long peduncles; a beautiful greenhouse shrub from Chili; *Atragene alpina*, unusually good in colour; *Calceolaria violacea*, a charming plant that should more often be in gardens; and a handsome flower-spike of *Arbutus Andrachne*.

A CURIOUS AND DISTINCT LILY OF THE VALLEY.

Mr. Vrenydenhill, Haarlem, Holland, sends us flowers of a Lily of the Valley with quite double flowers, borne in threes on the short pedicel, not singly as is more usual. It is very free, robust and fragrant, and will probably last much longer in beauty than the ordinary variety.

I am sending you a few blooms of

CLEMATIS LADY STRATFORD DE REDCLIFFE.

This is growing on a small trellis pergola in the garden here. It is always the first *Clematis* (away from a wall) to bloom. We treat it as a member of the Jackmani section, and prune it down to the ground each year. Directly it starts to grow it blooms about 2 feet from the ground; then it makes a tremendous growth, and flowers with the Jackmani which are on the same pergola. There



MESSRS. WEBB AND SONS' GROUP OF CALCEOLARIAS AT THE RECENT TEMPLE SHOW.

is no doubt lanuginosa or patens blood is in it, although classed as a Jackmani. — ARTHUR C. GOODWIN.

[The flowers sent are extremely refined and beautiful, $5\frac{1}{2}$ inches across, and of a tender pale lavender-lilac colouring. A pale green band that passes down the middle of the outside of the petal shows faintly on the front and enhances the beauty of a singularly lovely flower. — Eds.]

TULIPA SPRENGERI.

Mr. Hartland sends from Cork a boxful of flowers of this beautiful Tulip "grown from seed sown two years ago last September." We have received many interesting contributions to our table, but few more so than this, which has flowers of much grace on long slender stems, while their colouring is best described as a warm orange-red. A very beautiful garden kind to group.

THE DOUBLE WISTARIA.

Among many interesting things sent by Mr. Anthony Waterer from Knaphill none is more welcome than a glorious flowering branch of the double Wistaria. Mr. Waterer writes that he has never seen the Wistarias so fine as this year, and we quite believe this, because the double variety is flowering splendidly. The branch sent us was very beautiful, the flower clusters of good size, and each flower a perfect rosette of petals of somewhat darker colour than the ordinary kind.

MAGNOLIA FRASERI (AURICULATA).

The room was soon perfumed with flowers of this beautiful Magnolia from Knaphill. Its silky green leaves have a charm of their own, and the creamy tone of the flowers is pleasing too.

ÆSCULUS BRIOTI AND OTHER FLOWERS.

Mr. Waterer also sent spikes of this brilliant scarlet Horse Chestnut, one of the brightest and most free-flowering of all trees in bloom at this time, the white Wistaria (alba), the yellow-flowered Pavia flava, and the Magnolia acuminata (the Cucumber Tree) cut from a tree 50 feet high.

Mr. Arnott, Carsethorn, N.B., sends several things, amongst them

TOLMIEA MENZIESII,

"a plant belonging to the Saxifrage family, and a native of North-west America, whence it was

introduced in 1812. It is the only species of the genus known, but has also been called Tiarella Menziesii and Heuchera Menziesii. It has been offered in catalogues as having terra-cotta coloured flowers, but it is difficult to see where that description applies. It is properly greenish-brown, with an olive shade in certain lights when growing. It is a plant for the wild garden or an out-of-the-way corner, as it is far from attractive in a border. The flowers are, however, rather useful at times to mix with others of a brighter colour, and the plant is often noticed because of its viviparous leaves, each of the radical ones and some of the others producing a young plant at the base. It is too early for this to show at present. In autumn the leaves drop to the ground, and the plantlets can root in the soil." Also

HIERACIUM VILLOSUM,

"one of the few Hawkweeds worth growing in the garden. It, however, compensates for the weediness of many of the genus, and makes a really pretty garden plant, especially on a dry sunny border or rockery, for which it is better suited than for a damp or shady place. I usually meet with it growing on the level in the border or the flat terrace of a rockery, but it looks much prettier where it can assume a pendant habit, and grows over a large stone or on a dry sloping bank. It has a dislike to much wet, and this is probably the cause of its being lost in some gardens. Its large yellow flowers and fine woolly foliage make it look very attractive in a suitable place. It is one of the best of the genus which I have met with, although not often seen. It is only fair to say that it has been called *H. valdepiilosum* also, and in the present state of the nomenclature of a notoriously difficult genus one would hesitate to be too positive as to which is correct. I think it is *H. villosum* of Linnaeus." And

ARISARUM PROBOSCIDEUM,

"which is known, too, as *Arum proboscideum*, a singular little Aroid which is seldom met with in gardens. Although it has been described in an excellent work of reference as having a greenish-purple spathe with a straight tail, this is hardly sufficient, as you will observe that the base of the spathe is white, the upper part almost a chocolate-brown, and the long, singular tail is not straight, but curved. Although not what one would call a pretty plant, there is a singularly fantastic look about it which creates a feeling of interest in it

and of a desire to see it in bloom again which is sometimes absent with more showy plants. It is a native of South Europe, whence it was introduced about 1823. It has proved quite hardy here in a shady border facing east, protected from the north by a wall, and from the sun of the south by a tree."

CYPRIPIEDUM PARVIFLORUM.

This handsome and perfectly hardy dwarf Lady's Slipper should be in every collection of hardy plants; it is of very easy cultivation, and the best position for it is in some nicely sheltered and half shaded spot on the lower flanks of rockwork, or among shrubs planted near it in sandy loam with abundance of leaf-mould. It will succeed in any sheltered, somewhat shaded, and well-drained spot. It is rather impatient of removal when once established, and should be allowed to make large clumps. Grown in this way it is most effective. — T. B. FIELD, *Ashwellthorpe Hall Gardens, Norwich*.

[Mr. Field sends a bunch of flowers of this beautiful Lady Slipper, so bright in colour and pretty in form; the clear yellow of the lip or pouch is very charming against the brown dorsal sepal and long petals. — Eds.]

ABUTILON VITIFOLIUM.

Mr. Hartland, Patrick Street, Cork, sends a delightful boxful of flowers of this beautiful Abutilon for colour and form. The sender says: "The birds roost in it. The shrub is now 30 feet high, and a mass of bloom."

HALESIA DIPTERA.

Messrs. Robert Veitch, The Royal Nurseries, Exeter, send a branch of this beautiful white-flowered tree. The senders say it is "looking very beautiful with us," and this we can quite believe.

FLOWERS FROM THE UNITED STATES.

From Mrs. Freeman, Boston, U.S.A. — "From a city garden" come blooms of *Mertensia virginica*, *Campnervil Jonquil*, *Corchorus japonicus*, *Dielytra spectabilis*, *Cowslip*, *Forsythia suspensa*, *Vinca minor*, and *Lily of the Valley*. The coloured blooms are especially brilliant, showing how well these good flowers flourish in an American city.

We receive from Messrs. Henkel, of Darmstadt,

PENTSTEMON RIPARIUS,

a handsome species nearly 18 inches high, with linear, almost glaucous, leaves, $1\frac{1}{2}$ inches to $3\frac{1}{2}$ inches long. The 1 inch long flowers of a tender lilac shading to white are in a handsome well-filled spike. A desirable plant for the choice special border or for the rock garden where a plant of upright habit is desired.

HAPLOPAPPUS CROCEUS.

A neat yellow-bloomed composite about 6 inches high. The flowers are about the size of the yellow Fleabane of our roadsides. It should be a good rock garden plant.

ERIGERON GLANDULOSUS.

Another neat rock garden plant with Daisy flowers 1 inch in diameter, light lilac with yellow disc.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

GENTIANA ACAULIS.

[TO THE EDITOR OF "THE GARDEN."]

SIR, — When I was in Switzerland nearly two years ago I obtained and brought home, amongst other alpine plants, a plant of the very pale blue Gentian, similar, apparently, except in colour, to the *Gentiana acaulis*, both of which are to be found in plenty on the Grand Scheidegg and Gemmi. This plant has given me one flower on my rockery this summer, but as I do not remember

to have seen it elsewhere, and as it was not exhibited amongst the alpine at the Temple show, I am led to ask if it is an unusual thing to grow in England. I remember to have seen it in quantities on the Alps, and as it is a flower of considerable beauty I am surprised that it is not more generally grown. FRANK M. ELGOOD.

[The pale varieties of *Gentiana acaulis* are well known, but, as Mr. Elgood remarks, it is to be regretted that they are not oftener seen in gardens; they are probably to be had at the best nurseries for alpine plants.—Eds.]

AQUILEGIA GLANDULOSA AND CLEMATIS MONTANA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I beg to enclose a few blossoms of *Aquilegia glandulosa* crossed with *Clematis montana*. I shall feel obliged if you will give me your opinion of them through your valuable journal, and whether you think there is a decided cross.

A. G. HOOKINGS.

The Gardens, Oldown House, Lockington, Gloucestershire.

[The *Aquilegia* flowers received, as far as we could judge from the much faded specimens, show no evidence of hybridisation with *Clematis montana*. The two plants are within the same natural order, but of such distinct genera that success in an attempt to produce a hybrid would be extremely unlikely. This many-petalled starry form of *Columbine* is not unusual in *A. vulgaris*, and the flower is never so beautiful as the typical shape. If the flower should really be such a hybrid as is supposed it is not good enough to be of garden value.—Eds.]

THE VALUE OF CANNAS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was pleased to see "A. H.'s" notes on the *Canna*, and think it is a pity they are not more grown, both for "bedding out" and for conservatory decoration. I herewith enclose a photograph which shows some plants that have been grown from seed this year; the seed was sown on January 24, and the plant commenced to flower

about May 15, a period of about sixteen weeks. Their deep green and bronze leaves are quite charming in themselves, and, of course, their spikes of bloom are a grand addition to the greenhouse or conservatory. The plants average about 20 inches in height, and are carrying four strong growths in 8-inch pots, which is evident they will continue blooming for some time. For massing together in beds they are splendid, and repay what little trouble they give (in the early part of the year) by their mass of bloom until the frost comes. The strain of seed sown is Sutton Large-flowering Dwarf.

J. W. SIGEE.

(Gardener to F. A. Roberts, Esq.)

The Common Gardens, Windermere.

[The photographs showed plants of splendid growth and with fine flowers.—Eds.]

AZALEA ILLUMINATOR.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—This pretty little *Azalea* is alluded to in the notice of Messrs. Fisher, Son and Sibray's nurseries as quite new, a statement that needs at least a certain amount of qualification. It was shown and a first-class certificate awarded it on March 24, 1885. Two years later it was distributed by Mr. William Bull of Chelsea, and is now fairly well known. In the shape of little bushes it has been used for the embellishment of No. 4 greenhouse at Kew, at all events for the last two or three seasons. Though a hybrid between *A. amœna* and one of the Indian section, the flowers are altogether wanting in the hose-in-hose character common to many of these hybrids. A variety of this section which is just now the most popular of all is *Hexe*, alluded to in *THE GARDEN*, page 388, as *Rhododendron indicum Hexe*. This was raised by Mr. Otto Forster of Lehenhof, Germany (the raiser of *Rhododendron forsterianum*), who in 1878 fertilised a flower of *Azalea Duc Adolf von Nassau* with pollen from *A. amœna*. The result was the variety *Hexe*, now often sent in the mixed collections of *Azaleas* from the continent in the autumn. It also formed the subject of a coloured plate in *THE GARDEN* nearly nine years ago, and some very pretty examples were noted in Messrs. Turner's group at the recent Temple show. By

botanists these are all included under the head of *Rhododendron*, but the name of *Azalea* is too firmly fixed to be eliminated by a stroke of the pen. H. P.

A HORNBEAM WALK.

IN large places where there are brilliant parterres and flowers well used in many different ways, it is a need to the true enjoyment of all this beauty to have the occasional restfulness of simple spaces where flowers are not, but where the eye and mind are refreshed and in the best way prepared for the further enjoyment of the brighter scenes. Such a place as this, in the grounds of one of the great houses in Derbyshire, where there is nothing of vegetation but the walls and niches of Hornbeam and the well-kept turf, is not only in keeping with the dignity of the great country house, but is the best possible preparation for, and termination to, a happy journey among the flowers.

MISCELLANEOUS.

GARDENS FOR CITY CHILDREN.

IN his thirteenth annual report to the members of the Norwich School Board, Mr. D. O. Holme (the Board's Inspector) states:—

The gardens at Nelson Street have been very successful, and an important point with respect to this work—the cost—has been very satisfactory. Last year the expenditure for maintenance was £6 19s. 7d., compared with £9 0s. 4d. received for sales, being a profit of £2 0s. 9d., exclusive of the grant. The cultivation was limited to vegetables, but it is intended to extend the work to flowers. Atmospheric observations are taken by the boys, and they understand that it is necessary that, as part of the training, each plot should "pay." The Norwich Corporation has kindly let to the Board a portion of



A HORNBEAM WALK AT HARDWICKE.

Chapel Field Gardens for the purposes of a flower garden, and in order that specimens of flowers may be supplied cheaply to the schools, cultivated by boys from the Cook's Place School, under the direction of a committee of the Norwich Teachers' Field Club.

The City Committee has, also, on the representation of the Board, decided to label the trees for educational purposes. While the Field Club does not constitute a part of the Board's own work, the influence it has had on many of the teachers, especially in inculcating an appreciation of nature teaching, gives me the excuse for mentioning here the great work that Mr. Peake has done as hon. secretary of the club since 1896. I have arranged for the infants and children in the lower classes in schools in close proximity to the fields to have some practical instruction in the wonders of nature, and I trust that this will be developed. Mr. Herbert Spencer says: "Children should be led to make their own investigations and to draw their own inferences. They should be told as little as possible, and induced to discover as much as possible." This is peculiarly the want in most of our infants' schools and in the lower classes of upper schools, where kindergarten methods will now be definitely developed.

The gardens at Nelson Street have been already described in the columns. The gardens in Chapel Field are a new departure. Every Monday, Wednesday, and Friday a number of the boys from Cook's Place School are to be found opposite the children's playground working at a piece of ground, 60 yards by 30 yards, which has been placed at their disposal by the Corporation. It is interesting to note that now the gardens are added to the playground a considerable slip of the south-west end of Chapel Field Gardens is now devoted to the children, either for play or for instruction. It ought, perhaps, to be at once stated that no one will be injured by this concession to the horticultural pursuits of Mr. Peake's lads. Hitherto the piece of ground which they now occupy has been a turfed space, "Please keep off the grass" being everywhere visible. As the gardening operations of the boys proceed the rather worn turf will be replaced with flower beds radiant with blooms, some of the beds forming a miniature botanical garden, the only thing of the kind in the city.

The lads work under a syllabus approved by the Education Board, and they will earn grant on examination. During suitable weather they will be found in the gardens three hours a week, each boy having his own bed. The primary objects of the gardens will be to furnish to all the schools of the Board in Norwich and to the classes at the Technical Institute, according to season, specimens of flowers for object and other lessons, illustrating the similar British orders, and of affording to all those who are interested, especially school children, an opportunity of seeing these plants growing in groups of the same kind. In all twenty-six beds are to be laid out, a number of which are to be definitely botanical in character. In one of these beds are now to be found plants all of the Buttercup family—Buttercups side by side with Anemones and Pæonies. In another bed are plants of the Daisy order—Daisies, Michaelmas Asters, Sunflowers, &c., in another bed are plants of the Iris family, and so on. The beds are prepared by the boys themselves, under the supervision of Mr. Peake, who is an enthusiastic botanist, and who brings to this work all the ardour which he threw into the series of lessons in English literature which he gave at the Board's evening continuation classes during the winter, Mr. Peake being assisted by Mr. Harry Robertson.

The gardens, together with those at Nelson Street, are under the management of a committee of the Field Club, of which Mr. Duffin is president for the year, and Mr. Looker secretary, and of which Mr. Peake has been secretary for the past four years. The Field Club consists of some 150 teachers, banded together for the purposes of the study of natural history and of assisting them to acquire knowledge for lessons in what for want of a better name may be termed "nature study."

Plants, particularly hardy perennials, are needed

both at Nelson Street and at Crook's Place, and would be gladly welcomed by the head masters of the two schools.—*Eastern Daily Press.*

BIRDS IN THE ORCHARD.

WE occasionally come across a man who is opposed to spraying, considering it an altogether too laborious and useless work. Such a man cited to me an orchard where its Apples were unexcelled in freedom from worms and the orchard equally so in immunity from caterpillars.

Now this seemed pretty strongly to confirm his anti-spraying views. Thinking that there was some cause for this high state of excellence where no spraying was in vogue, I had an interview with the owner in regard to this matter, and was told that the only cause he could assign to it was the work of birds, for during last spring and summer myriads of birds were busily engaged in the orchard. In the vicinity of the orchard was a grove of evergreens, through which ran a stream of water. Amid these trees numerous nests were to be found. To show that these birds had a powerful influence in ridding the orchard of pests, we will cite a few facts issued by the New York Department of Agriculture. The United States authorities at Washington have been dissecting some thousands of birds and have made records of the contents of the stomachs of each bird.

We will now name a few birds and show the contents of stomach. The winter food of chickadees was found to be largely eggs of canker worms, each stomach on being examined contained 300 to 450 eggs of the canker worm.

Ninety-nine per cent. of the stomach contents of 30 meadow larks was caterpillars, grasshoppers, and beetles.

In 46 black-billed cuckoos there were found 906 caterpillars, 44 beetles, 96 grasshoppers, 100 sandflies, 15 spiders.

In 109 yellow-billed cuckoos there were found 1,865 caterpillars, 242 grasshoppers, 69 bugs, 6 flies, and 86 spiders; surely there was but very little room for fruit. In one stomach alone there were 250 tent caterpillars. From two-thirds to three-quarters of the food of the woodpecker consists of insects.

In two flickers, 3,000 ants were found in each stomach. It has been stated that the king bird is destructive to bees, but the following will discredit this assertion. Out of 281 king birds there was only fourteen stomachs which had bees, and 90 per cent. of its food was found to be insects. The blue jay eats many noxious insects, also the crow, barn-swallow, and our old familiar friend the robin.

I have noticed in our own orchard that the woodpecker seemed quite at home around peach trees, digging for all they were worth for the peach borer.

We might relate many more examples in these researches, but surely enough has been said to show that birds are no small factor in this matter of ridding our orchards of insects. Acts of legislation have been passed forbidding the slaughtering of many birds, and now each of us, as individuals, should take an interest in rearing and protecting the beautiful feathered fruit protectors, and only be too happy to allow them the very meagre allowance of fruit which they eat, and which is indeed very small in comparison to the insects which they devour.

Birds need the protection of dense trees, quiet resting places in which to hatch their eggs and care for their young; evergreens are a favourable resort for many birds. Birds are much like other animals, they can become to a certain extent domesticated, and live around the same places as well as any domestic fowl.

Professor D. Lange, in his book, "Our Native Birds; How to protect and how to attract them," gives a case where a lady in Vermont has made a speciality of attracting birds to her gardens and orchards, and she has succeeded admirably well. She says: "After once learning to take food provided for them the birds will come anywhere for it, to windows on upper stories or windows

under piazzas. Her main reliance in winter seems to have been bones, with bits of meat and marrow remaining upon them, which were nailed or tied into trees to be pecked at. Chickadees, woodpeckers, and many others go to them immediately."

A great number of us might imitate or improve on this, and entice many birds to our surroundings. If we cannot do this we can at least stop the small boy with his stones and sticks, and his robbing-nest tendency, also the big boy with his gun.—J. F. BRENNAN (Grimsby) in the *Canadian Horticulturist*.

Late Apples.—Mr. Baker kindly writes in reference to our note in THE GARDEN, page 390: "The Apples my gardener sent you were kept in a shed facing north with thick walls, and ventilation at the top and on the ground. The place is always kept dark, and if necessary the floor (flagged) wetted. I find fruits removed from the trays and put on the flags have kept better since the hot weather has set in."

Dutch Horticultural and Botanical Society.—At a meeting of the committee of this society, on May 8, first-class certificates were awarded to Aubrietia Mørheimeri from Mr. B. Ruys; Dedemsvart and Cineraria hybrida Vieux Rose from the Zoological Garden, Rotterdam; Selenipedium caudatum var. Wallisi sent by Mr. H. C. Hacke, Baarn, obtained a certificate of merit, and Vanda Parishii var. marriottiana from Mr. W. C. Baron von Boetzelaer, Maartensdijk, gained a botanical certificate. Messrs. Gratama Brothers, Hoogeveen, were awarded a gilded silver medal for a collection of cut Roses.

Phenological Observations for 1900.—Mr. Edward Mawley has sent to us a booklet bearing the above title, being an extract from the quarterly Journal of the Royal Meteorological Society, and compiled by Mr. Mawley. It is full of interesting observations regarding the weather, crops, appearance of birds, butterflies, &c. The following is the summarised report for 1900: "During the greater part of the winter and spring the weather proved cold and sunless, but in the summer and autumn the temperature was, as a rule, high, and there was an unusually good record of bright sunshine. As affecting vegetation, the two most noteworthy features of the Phenological year were the cold, dry, and gloomy character of the spring months, and the great heat and drought in July. Throughout the whole of the flowering season wild plants came into blossom much behind their average dates, indeed, later than in any year since 1891. Such spring migrants as the swallow, cuckoo, and nightingale were also later than usual in reaching these shores. Taking the British Isles as a whole, the crops of wheat, barley, and oats were all more or less under average; the yield of hay was poor in the southern half of England, but elsewhere varied from a fair to an abundant crop. Turnips and Swedes were almost everywhere deficient, but there was a heavy crop of Mangolds. Potatoes were generally under average. This was a bountiful year as regards fruit, the yield of Apples, Plums, and all the small fruits being remarkably good.

Mr. W. Duncan Tucker, Lawrence Road, Tottenham, N., sends to us his illustrated catalogue of horticultural buildings. The numerous illustrations are from photographs of conservatories, winter gardens, ferneries, vineries, &c., in different parts of the kingdom. A speciality is made of villa greenhouses, both lean-to and span-roofed. Mr. Duncan Tucker also manufactures and erects all necessary heating apparatus.

Lectures at Chiswick.—The Rev. Professor G. Henslow, M.A., V.M.H., has arranged to deliver the following lectures, under the auspices of the Royal Horticultural Society, at Chiswick, on Wednesday evenings, at eight o'clock. June 12, "Propagation of Plants without Seeds." June 19, "The Awakening of Buds and the Sleeping of Leaves." June 26, "How Plants Climb." July 3, "Injuries to Plants by Smoke."—W. WILKS, Secretary.

THE GARDEN.

No. 1543.—VOL. LIX.]

[JUNE 15, 1901.

INJUDICIOUS BOTANISING

A PAMPHLET has reached us describing a holiday course of botanical rambles for teachers. It appears to be excellently organised, and doubtless the young people who take part in it will gain much useful knowledge in a very pleasant way. But it commits what we cannot but think is the very grave error of publishing the localities of scarce plants, and of advising that they should be searched for. Surely if a local botanist is aware of the habitat of a rarity it would be better not to show it to a score of people; the general educational value of the ramble would not be decreased by the one omission, and a good plant may be saved from extinction.

Already much damage is being done by botanical collectors near London; the still beautiful wilds of Epping Forest are daily being searched and robbed of their treasures. The true botanist is never to be feared, but what is indeed to be dreaded is the host of eager young collectors, abounding in zeal but wanting in discretion and discrimination, that descend upon our precious wastes and woodlands like a swarm of hungry locusts devouring and destroying by tearing up beautiful and perhaps rare vegetation of which not one item in ten will be put to any good use.

Sometimes the waste is quite wanton, for nothing is more frequent in the time of Bluebells than to see on the ground gathered handfuls that have been idly picked and then flung away. Many thoughtless people say that picking flowers does no harm if the plants are left, forgetting that if the flower is taken the plant can form no seed. From this cause many copses where a few years ago Primroses were in tens of thousands have now but few, and in a few years more will have none at all.

We do not by any means wish to discourage legitimate botanical study in the field; far from it, only to entreat those who conduct the parties to be cautious and watchful of our country's treasures. Much good might be done in country parishes if some kindly naturalist would devote a couple of hours on Sunday afternoons in summer in helping the village lads, who would otherwise stand idling at the cross roads, to take some intelligent interest in the flowers, birds, and other wild life, and, in a small degree, in the geology of the land they live in. Our flora is too precious to expose to the thoughtless collecting by those to whom "botanising" is perhaps a passing

fancy. It has suffered much in the past, so much so that many beautiful flowers are almost extinct.

EDITORS' TABLE.

KELWAY'S PYRETHRUMS.

The Pyrethrum is a good garden flower, and valuable by reason of its comparatively early opening. Amongst those sent by Messrs. Kelway are many beautiful varieties; for instance Melton, a rich deep crimson (double); Lady Randolph Churchill, a double white, fine large flower; Lady Kildare, double, pale blush pink, yellow centre; Ovid, a pretty flower, carmine-red (double). The singles include Queen of the Whites, a large bold flower; Alice, a charming colour, deep rose-lilac; Countess of Onslow, blush pink; James Kelway, rich ruby-crimson; and Grizzell, rich rose.

TWO HANDSOME FERULAS.

Specimens of *Ferula tingitana* and *F. Linkii* have been sent to us by Messrs. Stansfield Bros., St. Luke's Road, Southport, with these remarks. "At this season of the year *F. tingitana* takes on a most beautiful bronze tint, and *F. Linkii* is even still finer. It is of a rich canary-yellow. Both these Giant Ferulas are extremely ornamental and perfectly hardy, preferring a deep, well-drained soil and a southern aspect. The first-named grows from 10 feet to 12 feet high, the latter is much dwarfer, reaching a height of about 5 feet."

[The shoots sent by Messrs. Stansfield fully deserve all that has been said of them. *Ferula Linkii* is particularly beautiful, and is undoubtedly a valuable hardy foliage plant.—EDS.]

ROSA MICROPHYLLA SIMPLEX.

How seldom one meets with this pretty and interesting old Rose. No collection of Roses, however small, should be considered complete without it. It is a native of the Himalayas, and requires a rather dry soil and the protection of a wall or a sheltered nook in the garden. Apart from the beauty of the flowers the foliage is most useful for mixing with other flowers. If the buds of this Rose are cut just before they begin to expand and are placed in water they will open freely and last several days.—T. B. FIELD, *Ashwellthorpe Hall Gardens, Norwich*.

[A delightful Rose, pure and beautiful in colour, and with pretty foliage.—EDS.]

HYBRID AQUILEGIAS.

Messrs. James Veitch and Sons, Limited, Royal Exotic Nursery, King's Road, Chelsea, send a selection of *Aquilegia* blooms, remarkable for their soft and distinct tints. There is much variety of colour amongst them, and this, together with their quaint form, make them invaluable.

AUTUMN-SOWN SWEET PEAS.

Mrs. Thorneycroft sends a splendid gathering of the above delightful flowers from Bembridge, Isle of Wight, with the following interesting notes: The seeds were sown roughly in June, 1900, on a mound of earth which had been thrown up when making alterations in the garden. They did not bloom that year; but they did at Easter time.

The Peas looked very flourishing, and the first blooms were picked on May 12. The Peas are growing on the top of the mound, which is about 14 feet high, and on the side exposed to all the south-west gales. The Sweet Peas that were sown in drills in the garden in the first week last November came into bloom the last week in May. They are exceedingly strong and covered with flower and without the slightest protection during the winter. The kinds sent are Sutton's Giant Flowering Mixed.

NOTES OF THE WEEK.

A red-flowered Camellia out of doors.—A photograph, unfortunately not suitable for reproduction, is sent by Mrs. Brown, of a fine red *Camellia* growing in her garden near East Grinstead. It is described as from 8 feet to 9 feet high, covered with bloom, and in the most vigorous health.

The late Paris show.—Judging from *Le Jardin*, the storm which visited Paris during the recent horticultural exhibition was very severe, and "E. W." refers to it also in his notes this week. *Le Jardin* contains in this number also (June 5) a coloured plate of two popular Apples, the Colville and Reinette du Canada.

Lectures on crop cultivation.—The secretary of the Royal Botanic Society sends us a syllabus of a course of ten lectures on "Commercial Crop Cultivation in Greater Britain," by Mr. R. Hedger-Wallace, to take place in the gardens on Friday afternoons at four o'clock, from June 7 to August 9.

Notes from Baden-Baden.—The Himalayan variety of *Aster alpinus* is very distinct; the whole plant is more dwarf, free-flowering, and the blooms are larger. *Dracopis nutans* is an alpine, the deep blue flowers on numerous spikes keeping fresh for a long time. *Silene Hookeri*, with its large flesh-coloured flowers, the lacinated form of which at once attracts attention, is a Californian alpine, and one of those plants the wants of which must be studied for a long time to get them to full beauty; it needs the protection of a frame. *Ranunculus nysanus* this season has been more showy than ever; the numerous large well-formed flowers of a brilliant citron-yellow contrast well with the roughly cut greyish foliage; it dies quite down in summer and autumn and is perfectly hardy. *Rheum palmatum floribus rubris* is valuable to plant singly on a lawn, or in small groups on the edge of a wood or shrubbery; it has showy crimson flowers and comes true from seed. *Meconopsis paniculata grandis* and another species are soon going to flower, but they dislike the present hot and dry atmosphere; moreover, they want full sun; *paniculata* is yellow, *grandis* is violet flowered, and both are remarkably beautiful.—MAX LEICHTLIN, *Baden-Baden*.

Gloxinias at Roupell Park Nurseries.—Gloxinias form one of the specialties at the above nurseries of Messrs. Peed and Sons, and we have never seen a richer picture. The plants are in 8½-inch pots, the foliage almost completely hides the pot, being some 9 inches to 12 inches broad and 12 inches to 14 inches long; the mass of flower as one looks down the house, 60 feet to 70 feet long, is remarkable; every

colour imaginable, excepting one, and that yellow. The most lovely of all is Countess of Warwick; the edge of the lobes are a beautiful soft pink with white throat. We are not surprised at the number of awards and certificates this variety has received. The next to attract our attention is raised from the same pod of seed from which came the Countess of Warwick. Instead of being pink or any colour bordering on the red, it is a tender blue with white throat, and is named Lord Roberts. Turning to the French spotted varieties, undoubtedly the Duchess of York leads the way; colour, French grey, spotted heliotrope; a large, perfect shaped flower, each lobe overlapping the other. Another very attractive spotted variety is Mrs. Weaver; ground grey, densely spotted deep pink. A new one named this year is a self, a brilliant fiery crimson; it catches the eye immediately one enters the house. Purple King is also another fine variety; large firm lobes, flower perfectly round, a deep rich purple. Another new one named this year is Amy Greenhill, a beautiful white, with a faint line of rosy pink running round the bottom of the petals. There are many more named varieties, also numerous seedlings, but time and space will not allow further descriptions, except to say what strikes us most of all is the beautiful symmetry of each plant, all the flowers being thrown up from the centre crown exactly like a bouquet.

Photographs of Lilies wanted.—

The editors of THE GARDEN ask the help of their readers in securing any good photographs of Lilies, either in the form of simple portraits of single spikes or groups showing garden effect. Good pictures of *L. Krameri* and of *L. chalcedonicum* are especially desired. Many photographs of Lilies reach us, but nearly all are unsuitable for reproduction from being taken with confused or unbeautiful backgrounds. Red and yellow Lilies should if possible be taken with a plain light-coloured ground, as these colours come dark in photography.

York floral fete.—Owing to THE GARDEN going to press on Wednesday, we are compelled to hold over the report of this beautiful show until next week.

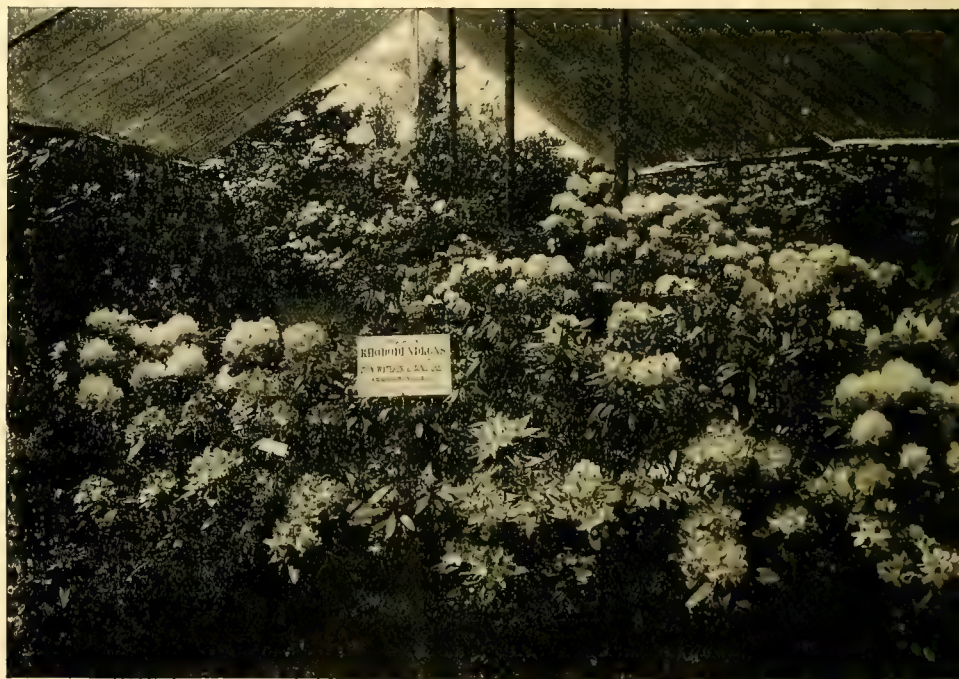
Orobanches.—Concerning Orobanches, I am delighted to tell you that the plant of *Angelica* you sent me has brought its guest (*O. major*) with it, and there are several heads of it round about. I am likewise astonished to find *Orobanche speciosa* in flower, with nothing to grow upon except *Linaria cymbalaria alba*, a perfectly non-leguminous host. Not, however, on an old wall, but upon a stage in coolest house, where there is only a covering of sifted coke for any vegetation to lay hold of. I can account for the seed of the Orobanche, because I had laid a few stems with ripe pods there for a few days. I suppose an Orobanche may have a fair circle of acquaintances, but I did not expect to find it as wide as this for *O. speciosa*. Its inflorescence stems, on this lean fare, are very healthy, though not nearly so strong as on the Bean. There are about a dozen flowers on each, and four stems so far.—FRANCIS D. HORNER.

Giant French Asparagus.—We have received from Messrs. Sutton and Sons, of Reading, samples of their excellent selected stock of this Asparagus. We tried it and pronounced it good in every way, large, and of delicate flavour. Messrs. Sutton also send the following note upon Asparagus culture:—"Commence operations by digging a broad, deep trench, throwing out the soil to the right and left to form sloping sides until there is a perpendicular depth of 27 inches from the top of the ridge. About 1 foot of prepared soil should be placed at the bottom of the trench. This may be composed of such material as the trimmings of hedges, sweepings of shrubberies, twigs from a faggot pile, wood ashes, and leaf-mould. The constituents must to some extent depend on the materials at command. What is wanted is a light compost, consisting almost wholly of vegetable matter in a more or less advanced state of decomposition. Add 3 inches or 4 inches of rich loam, and on this, at the beginning of April, plant strong one year roots of a robust-growing variety. Between the plants it is customary to allow a space

of at least 2 feet, and some growers put them a full yard apart. Cover the crowns with 3 inches of rich soil previously mixed with manure and laid up for the purpose. The second and following rows are to be treated in the same way, and the work must be so managed that an equal distance of 4½ feet or 5 feet is left between the rows. When the foliage dies down in the autumn, a layer of fertile loam mixed with rotten manure should be spread over the surface. In the succeeding spring remove just the top crust of soil and give a thick dressing of decayed manure alone, upon which the soil can be restored. During the autumn of the second year the furrow must be filled with horse manure for the winter. Remove this manure in March, and substitute good loam containing a liberal admixture of decayed manure previously incorporated with the soil. The slight ridges that remain can then be levelled down. By this treatment large handsome sticks of Asparagus may be cut in the third year. To maintain the plants in a high state of efficiency, it must be clearly understood that forcing with horse manure will be necessary every subsequent year." All we hope is that Asparagus trials will continue to be made.

either side are numerous other beds, interspersed by winding walks, and planted with hundreds of Rhododendrons in a great variety of colour, and now in full flower. A covering of canvas overhead protects the blooms from the sun; but it is always cool in this Rhododendron garden notwithstanding, for the sides are quite open. It is an unique exhibition, and will add much to the attractiveness of the Royal Botanic Gardens during the next few weeks.

Lewisia Tweediei.—In reply to Mr. Jenkins's enquiry, I can only say that in my experience this beautiful Oregon plant must be classed with the "miffies," at least as far as outdoor culture is concerned. In a frame there is no difficulty with it, and it can be readily propagated from cuttings. It never seeds here. Mr. Johnson, of Astoria, tells me that in its native place it covers acres of ground, and that when all the plants are in flower the effect is beyond description. I can fully believe this. Apart from the Tea Roses we have nothing to equal the colour of its buds; but I have not as yet succeeded with it permanently in any position out of doors. Some plants die in winter, some die in spring, some are



RHODODENDRONS IN THE ROYAL BOTANIC GARDEN, REGENT'S PARK.

(Exhibited by Messrs. John Waterer and Sons.)

This delicious and wholesome vegetable should be grown largely in the British Isles, and such stocks as this promote its culture on an increasingly large scale. Messrs. Sutton also write:—"As doubtless you are aware, blanched Asparagus should be tied together and stood upright in the vessel they are cooked in, the water not being allowed to come more than half-way up the sticks, so that the tops are steamed only, while the harder portions are boiled."

A Rhododendron exhibition.—The gardens of the Royal Botanic Society, Regent's Park, are full of delightful dells, shady walks, and interesting trees and plants, and make an ideal position in which to hold an exhibition of flowers. One of the numerous dells is now transformed into a veritable garden of Rhododendrons. Mr. John Waterer, Bagshot Nurseries, Surrey, for some weeks past has been occupied in arranging and planting these early summer-flowering trees, and has succeeded in providing a display of floral beauty that all interested in Rhododendrons should not fail to see. The design of the beds and walks is very pleasing. The centre of this veritable flower garden is filled with a large circular bed, while stretching around it for some distance on

quite unhurt and flower well. The only thing to do is to keep up a stock in frames, and continue experimenting.—A. K. BULLEY, *Neston, Cheshire.*

Rose Fortune's Yellow.—This much maligned (as to hardness) Rose does well with me. The old plant on the south wall runs up quite 25 feet, and is a mass of flower every year; the one over the front door facing west is a cutting from it, and was only planted ten years ago. These last two years neither of the plants have dropped their leaves, but previously to that they dropped them every year they flowered.—F. G. COLERIDGE, *Twynford, Berks.*

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, at 1 to 5 p.m. A lecture on "Gardening in the London Parks," will be given by Mr. M. J. Wheatley at three o'clock.

Fremontia californica.—In 1846 this Californian plant was discovered by Colonel Fremont when on an expedition to the Rocky Mountains, and up to the present time it is the only species known. Although it has been spoken of as a hardy shrub, it is only in very favoured

localities or against a warm wall that it will grow well out of doors, a cold sunny greenhouse being the most suitable place for it. In its native country it is said to grow to a height of 10 feet, but under cultivation it sometimes exceeds that height by 1 foot or 2 feet. It makes a perfect pyramid, the lower branches being 4 feet or 5 feet long. The leaves are 2 inches to 3 inches across, and three to seven lobed; the flowers are $3\frac{1}{2}$ inches in diameter, rich, deep yellow, with reddish brown stamens, and borne singly from the axils of the leaves. When grown indoors it flourishes in a light position, where it can have a little shade during the hottest part of the day, and grows well in a well-drained border of sandy peat and loam. In the Himalayan house at Kew a specimen 12 feet high and 8 feet through at the base is now smothered with flowers, and makes a very distinct feature growing amongst Rhododendrons, Camellias, &c. For anyone who can afford room for this shrub a plant or two would be highly appreciated when in flower.—W. D.

Carpenteria californica.—The usefulness of a cold greenhouse is very apparent where this and other showy Californian plants are grown. These are impatient of much fire-heat, and yet are not quite hardy enough to do well out of doors, their requirements being met by a minimum winter temperature of 32° and a maximum fire-heat temperature of 35°. The plant under notice was first collected by Colonel Fremont between the years 1843 and 1848, and was named after Professor Carpenter, a botanist of Louisiana. It was first introduced into European gardens through the medium of M. Max Leichtlin, of Baden-Baden, about twenty-five years ago. On various occasions good specimens have been recorded as flowering freely, but it is the exception rather than the rule to find a large plant. Several years ago it was figured in the *Botanical Magazine* from a specimen supplied by Miss Jekyll from Munstead Wood. In the description with the figure in the above-mentioned work mention is made of a very fine plant 7 feet high growing in Miss Jekyll's greenhouse, while a smaller plant is recorded as having passed safely through a winter out of doors. In the Himalayan house at Kew a bushy specimen 6 feet high is just commencing to flower, and in a few days' time it will be a mass of large white Philadelphus-like flowers. Though the snow-white petals of this plant are beautiful alone, their effectiveness is enhanced by reason of the large central tuft of golden stamens.—W. D.

A new Peach.—The crush at the recent Temple show of the Royal Horticultural Society doubtless prevented many horticulturists noticing the new Peach sent out by Messrs. Rivers of Sawbridgeworth. On the other hand, the name of these noted pomologists will go a long way with growers, as the firm during the last half century has given us some of our most beautiful fruits, especially Peaches and Nectarines. The new Duchess of York was a good Peach, and as regards flavour was first-rate, and the latter is a strong point with Peaches forced to be ripe in May. The fruits were not large but of medium size, and the tree is stated to crop heavily. The trees shown were bearing freely in quite small pots. Growers will be glad to know this will succeed on open walls. If satisfactory it will be most valuable, as though the American Peaches are remarkable for their earliness, some of them lack quality, and one or two early varieties are too small.—G. WYTHES.

Horticultural glass.—The editorial answer to the query on page 372 opens up a subject which has considerably exercised the minds of gardeners within the last few years, viz., the very indifferent quality of much of the glass used for horticultural purposes. I had occasion to have a lofty show house partially reglazed last autumn, and this spring many of the plants, including Callas, Clivias, and even Aspidistras were badly burnt. A solution of summer cloud, preferable, I think, to whitening and milk, was promptly syringed on front sashes and a portion of the roof, but not until a considerable amount of damage was done, and if this happens to plants a long way from the glass, it is reasonable to suppose

that vine foliage in a similar house that would have been well up to the roof would suffer to a much greater extent. In future I shall carefully examine all glass used before it is put in. As the editors invite answers to any queries sent in I should strongly advise, in addition to the interesting information given, that "a Constant Reader" be careful his foliage is thoroughly dry before the sun is strong on the house. Given a rather low night temperature and healthy vines, the outer edges of the leaves are often studded with moisture in the early stages of growth, and this has to be removed. In our case this is always noticeable with the two later vineries, and as they have a south-east aspect the earliest tapping is necessary by six in the morning. Naturally so soon as the grapes are set and swelling away, little or no moisture is found, and the harder texture of the leaf renders it less susceptible to attack.—E. BURRELL, Claremont.

A new Strawberry.—The Temple show of the Royal Horticultural Society is not the best place for the general public to deal with the merits of new fruits, as dust and heat are answerable for defects in appearance, and a very large committee cannot examine fruits so well as at an ordinary meeting. The new Strawberry, the Laxton, was well staged by the growers, Messrs. Laxton Brothers, Bedford, and I should like to see this new fruit sent to Westminster grown under ordinary conditions, not forced. I am aware a Strawberry that forces well should also prove a good cropper in the open, but forcing at times is not always carried out so that the best flavour can be secured. Messrs. Laxton will do well to show fruiting plants from the open ground.—G. WYTHES.

Protecting Strawberries.—In many places where nets are used to protect Strawberries from birds they do not always answer the purpose if they are placed directly over the plants, as birds of the larger species, such as blackbirds and thrushes, drop down heavily on the nets, and the latter rest on the fruit. We find it a good plan early in May to place wire on wood supports at sufficient distances to support the nets. Three strands of wire to a narrow border will suffice, and we do the work in May or earlier so as to save the first flowers that open. These are always the best, and if thin tiffany is placed over the wires the material does not touch the flowers, as the supports are about 18 inches out of the soil. The wires then come in most serviceable for the netting of the fruits later on, and we find the plants are much easier got at than if the nets were laid on the foliage. In wet seasons, too, the plants get more ventilation, the fruits do not decay so quickly, the nets last longer, and look much neater when covering the plants.—W. M.

Outdoor Chrysanthemums.—In addition to the information supplied on page 400 as to late blooms obtainable from above, I should like to add that I have generally planted a certain quantity on a south-east border some 8 feet in width, and at the approach of bad weather have extemporised a shelter for them with fir poles, upright in the front of the border, and others as rafters nailed on these and to the wall sufficiently close together so that the protecting material used keeps fairly tight. Tiffany is about the best for the purpose; it is rather expensive at the outset, but if dried carefully before stowing away will last for several years. It is advisable to bind it all round with tape to prevent fraying. Where the shelter of a wall is not obtainable, the shelter provided may take the form of a span working up from side uprights after the style of the skeleton of a plant house.—E. B.

Erodium macradenum.—There is nothing showy about this little Heron's-bill, but it is a lovely flower, and seen in a mass is very attractive, something that arrests and retains attention when more showy flowers are passed. I believe it was introduced from the north of Spain early in last century, and it is therefore strange it is not more often seen in gardens, as this, with other varieties of the genus, make admirable plants for rockwork, the front of dry sloping borders and places of like character. It is seen at its best when

associated with masses of alpine Phloxes. Individual blooms remind one of the flowers of some of the scented Pelargoniums, and although somewhat flimsy they retain their beauty and freshness for some time. It seeds freely, and can be increased either in this way or by division.—E. B.

Agathæa cœlestis.—We grow annually a large batch of this lovely little flower, some in pots, to assist in the decoration of the front stages of greenhouses, and the greater part for outdoor planting. For the latter purpose it is specially adapted for small beds, and is a charming contrast to a dwarf carpet of flowers like the variegated Mesembryanthemum or Pelargonium Manglesii. Blue flowers of about the height attained by this Agathæa are not very plentiful, and anything combining a lovely shade of colour, compact habit, and very free-flowering properties is therefore all the more acceptable. Within the last year or so a worthy companion to this Agathæa has been introduced in the new dwarf Delphinium Blue Butterfly, a lovely flower, and one likely to be largely used in flower garden work where blue shades are required.—E. BURRELL.

Buddleia Colvillei.—In a description of this plant Sir Joseph Hooker refers to it as one of the most handsome of all Himalayan shrubs, and says that it is impossible to exaggerate its beauty as seen in the borders of a Sikkim forest, when covered with pendulous masses of rose-purple or crimson flowers relieved by the dark green leaves. Although it has been known for upwards of fifty years, and has been cultivated in gardens for a considerable portion of that time, it is only in a few places that flowers have been produced. Mr. Gumbleton, of Belgrove, County Cork, was the first to flower it, and with him it has flowered several times since. At Kew it resisted all attempts to flower until last year, when a few sprays of flowers appeared. This year it is, however, flowering well, almost every shoot being terminated with a showy pendulous panicle of crimson Pentstemon-like flowers with a white throat. Though found in the Himalayas at an altitude of from 10,000 feet to 12,000 feet it cannot be said to be perfectly hardy, as it will not stand unharmed through any but the very mildest winters near London, and a severe winter kills it outright. It can, however, be grown in a cold house, and will there develop into a large rambling plant. Throughout the summer a lot of inside wood is made, and it has been found advisable at Kew to remove this, so as to give more light and air to other parts of the bush.—W. DALLIMORE.

THE FERN GARDEN.

ATHYRIUM FILIX-FEMINA.

(THE LADY FERN.)

ATHYRIUM FILIX-FEMINA, classed by botanists as an Asplenium, has no affinity with that family either in appearance, habitats, or relative stability of form, being one of the most variable Ferns in the world, while the Asplenium generally are peculiarly constant. In its varietal forms it varies in size from 4 feet in height to 2 inches or 3 inches, and in its wild state varies so much in detail that it is often difficult to find two plants exactly alike in cutting and general make. It affects moist habitats and even boggy ones, but, generally speaking, is one of the least dainty in its requirements, so long as it is not subjected to actual drought at the root. Hence any soil suits it, though naturally an open, leafy compost is the best. It assumes its greatest size and utmost delicacy in sheltered, shady glens near running water. In moist climates it does well in the open with shelter from wind and sun, but in dry ones is the better for glass protection with plenty of air, especially if large varietal specimens are in question. The dwarfs are less exacting, being naturally less liable to damage by wind. Normally the fronds are thin in texture, range from 2 feet to 4 feet in length, with a bare stem for some inches,

the pinnae 1 inch or 2 inches in length at the bottom, widening gradually to 4 inches or 5 inches in the centre, and tapering off to the pointed front-tip, *i.e.*, the fronds are broadly lanceolate. They are divided twice or thrice (bipinnate or tripinnate) according to size. Abnormally this Fern seems capable of anything. The Lady Fern is quite deciduous, the fronds dying down in the autumn quite independently of frost; sori horseshoe-shaped, with a ragged indusium or cover; spores smoothly oval or kidney-shaped.

Name.	Where Found or Raised.	Finder or Raiser and Date.	Description.
abasilobum..	..	..	See mediodeficiens.
acrocladon..	Castle Howard	Monkman (1860)	Ramose from base, and throughout forming a mossy ball.
a. densum ..	..	Stansfield (r.) (1878)	Similar, but denser growth.
apuaeforme..	Dent ..	J.M. Barnes (1870)	Fronds fish-shaped, crested.
a. Hodgson..	Torver ..	Mrs. Hodgson (1867)	Similar to last.
axminsterense ..	..	..	See plumosum Axminster.
Blake ..	..	Parsons (r.)	Plumose, beautifully crested; nearest approach to superbum; probably same origin.
canaliculatum ..	..	Stansfield (r.) (1882)	Fine grandiceps, with channelled rachis.
capitatum ..	..	..	Short fronds, thick crest. A crested Frizellæ.
caput Medusæ ..	..	Mapplebeck (r.)	Densely comminuted head, with twisted segments.
cathedrale ..	Lichfield Cathedral	More than 200 years ago.	Dwarf, prettily crested.
Clarissima Jones	N. Devon..	R. Moule.. (1868)	Large, lax, attenuated pinnae and pinnules, very beautiful, apospory first discovered on this, sori producing prothalli instead of spores.
C. Bolton ..	Lancs. ..	T. Bolton and friend (1893)	Smaller than last, and finer cut. Is aposporous at all points as well as sorally. Original a little inconstant, progeny very so; mostly worthless.
congestum ..	Cornwall..	Paul (1864)	Dense and dwarf, very pretty, and quite distinct.
c. Phillips ..	Antrim ..	Phillips .. (1888)	" "
c. Whitwell ..	Kentmere.	Whitwell.. (1897)	" "
c. Simpson ..	..	Simpson .. (1869)	Dense, dwarf, and crispy.
c. cristatum ..	..	E. J. Lowe (r.)	Dwarf, densely crested.
c. c. Fitt ..	..	Fitt ..	Dwarf, densely crested, resembles Findlayanum.
congesto-cristatum (Findlayanum)	..	Stansfield (r.) (1870)	Dwarf, densely crested, distinct.
congestum ..	..	Stansfield (r.)	Dwarf, dense, truncate, and horned at all tips.
c. grandiceps ..	..	Stansfield (r.) (1885)	Raised from Fitt's cristatum; heavier crests.
c. minus ..	Ireland ..	Riley ..	Misnamed Edwardsii; a dense, dwarf, crispy gem.
c. m. cristatum ..	..	Cropper .. (r.) (1895)	The same, crested.
conioides ..	Doncaster.	Appleby ..	Pinnae short and Hemlock-like; a beauty.
c. cristatum ..	Antrim ..	Praeger ..	Same character, crested.
coronatum ..	..	..	Frond heavy, crested; pinnae plain.
corymbiferum James	Guernsey..	James ..	Grand form, splendid bunch crests at all terminals.
crispatum ..	Cornwall..	Paul (1865)	Fine, dense, congested, crispate.
crispum ..	Antrim, Braemar, & Todmorden	..	Dwarf, ramose, and crested; rambling habit.
cristatum ..	..	..	Numerous forms, mainly specified elsewhere under various names. The type is simply tasselled at frond and pinna tips.
c. Smithies..	Wastdale ..	Smithies ..	Pendulous, polydactylous form.
cristulatum ..	..	Stansfield (r.)	Branchy crests, cristulate pinnae à la gemmatum.

Name.	Where Found or Raised.	Finder or Raiser and Date.	Description.
curtum ..	..	..	Pinnae short, and egg-shaped in outline.
c. cristatum ..	..	Stansfield (r.)	Pinnae short, and egg-shaped in outline; neat rounded crests.
c. grandiceps ..	..	..	Pinnae short, and egg-shaped in outline; heavy crests.
depauperatum ..	Ben Bulbin.	Gunning ..	Misnamed really; small, pretty, and slenderly finger-crested.
Elworthii ..	Nettle-combe	C. Elworthy A (1853)	A flat-fronded pericristatum; very fine.
excurrens ..	Tunbridge Wells	..	All tips truncate and thorned; neat.
Fieldiæ ..	..	..	Narrow, truncate fronds, with cruciate bunch pinnae.
fimbriatocrisatum ..	..	Garnett .. (r.) (1899)	A lax and charming cristatum; very distinct.
flabellipinnula ..	Westmoreland	Mrs. Wilson (1858, &c.)	A tiny gem, with stellate, spiky pinnae.
flexuosum ..	Lancs. and elsewhere	..	A curio; fronds twisted and pinnae revolute.
foecundulosissimum ..	..	C.T. Drury (r.)	Dwarf, narrow fronds, dense, capitate, proliferous crests.
formoso-cristatum ..	..	Elworthy.. (r.)	Very fine crested form raised from gemmatum.
Forsteri ..	..	..	See ramosum Forster.
Frizellæ ..	Wicklow ..	Mrs. Frizell (1857)	Pinnae regularly reduced to round knobs, progeny capricious.
..	Donegal ..	H. C. Hart.	..
F. capitatum ..	..	Various (r.)	Numerous forms raised, probably by unintentional crossing; fronds of the narrow type, with more or less dense or spreading terminal crests. Most are apt to revert somewhat erratically to normal or presumed parents.
F. cristatum ..	..	..	..
F. multifidum ..	..	..	..
F. ramosum ..	..	..	..
F. ramosissimum ..	..	..	..
F. cristatum congestum gemmatum ..	..	J.M. Barnes (r.)	Narrow; all tips heavily bunch crested.
Girdlestonei ..	Ross ..	Canon Girdlestone (1866)	Evenly depauperate in centre of frond and pinnae, centre pinnules very slender and long; beautiful, but "miffy."
glomeratum ..	..	Ivery (r.) (1864)	Heavy, capitate head and side crests, pinnules fanned at tips.
grammicon ..	..	E. J. Lowe.	Dwarf, narrow fronds à la Fieldiæ; doubtfully distinct from that.
grandiceps ..	Nettle-combe	Elworthy..	Heavy terminal crests.
"	Wivelis-combe	Morse ..	" "
"	..	Tyldesley ..	" "
"	..	Whitwell ..	" "
Grantæ ..	..	..	See congestum Paul.
Howardæ ..	Levens ..	Craig (r.)	Fine laciniate, well crested, depauperate centre, but good.
Huckii ..	Wet Sled-dale	Huck (1874)	Beautiful long, crispy, crested pinnules.
Kalothrix ..	..	Howlett & Sim (r.) (1870)	Unique, divisions extremely slender, and lucent like floss-silk; reverts slightly to plumose form.
K. plumosum ..	..	Stansfield (r.)	A Kalothrix reversion, resembles A. F.-f. p. Horsfall, the probable grandparent.
K. foliosum ..	..	Stansfield.	Divisions wider than Kalothrix, but lucent reverts to same extent, but to normal.
kilrushense ..	Kilrush (Co. Clare)	C.T. Drury (1892)	Long, many-stranded tassels at all tips; almost a grandiceps, very distinct.
laciniatum elegans	..	Stansfield (r.)	Crosses between Craigii and Horsfall plumosum; elegans has cruciate pinnules, no crests; ramosum is a multifid Horsfall.
l. ramulosum ..	..	Stansfield (r.)	..
laciniatum ..	..	Stansfield & Smithers	Extremely fine divisions.
laxo-cristatum ..	Co. Down ..	Phillips ..	Long, lax pinnules small crested.
lunulatum ..	..	..	Synonym of Frizellæ.
magnicapitatum ..	..	Stansfield (r.) (1878)	Heavy-headed acrocladon, flat fronds.
mediodeficiens (abasilobum)	Wigton ..	C.T. Drury (1884)	Basal divisions of pinnae and pinnules absent; frond and pinnae consequently open in centre; the two finds are quite distinct.
m. caudiculatum ..	Ireland ..	Phillips ..	Same character, but all terminals evenly caudate and serrate, with translucent teeth; very pretty.
multiceps ..	Truro ..	..	Multifid crests.
multifidum ..	..	..	Applicable to forms bearing flat, spreading tassels, not red-dividing.
m. tenue ..	Lancs. ..	Mrs. Wilson (1869)	A small, slender, crested form.
multifurcatum ..	Westmoreland	Mapplebeck (1871)	Wide, ramose terminal crests, with acute divisions.
nodosum ..	..	..	See Frizellæ.
nudicaule cristatum ..	..	Mapplebeck (r.)	Long, bare stalks, with capitate crests; small habit.
orbiculatum ..	..	Mapplebeck (r.)	Similar, on a larger scale.
pericristatum ..	Snaresbrook	J.S. Cousens (r.)	A grand, robust, true pericristate Fern; pinnules long and distinctly tasselled.
plumosum ..	Axminster.	J. Trott (1863)	Beautifully plumose; progenitor of superbum strain, dorsally bulbiferous.
p. Barnes ..	Westmoreland	Barnes (1863)	A true plumosum, but less foliose than some.
p. divaricatum ..	Lancs. ..	W. Morris (1872)	One of the best, and perhaps the best as a find.
p. Druryii ..	Forest Gate	C.T. Drury (r.) (1885)	Incomparably the finest plumosum; very robust, quinquepinnate; raised from superbum.
p. elegans ..	..	Parsons (r.)	Finer cut Axminster; parent of superbum.
p. Hodgsonæ ..	Ulverston.	Hodgson (1870)	A delicate true plumosum.
p. Horsfall ..	Skipworth.	Horsfall .. (1857)	Grand plumose form; very distinct.
p. Jones ..	..	..	Large and elegant.
p. Pouden ..	Antrim ..	Pouden ..	A slender, erect, dissected form; very distinct.
p. Stansfield ..	..	Stansfield (r.)	See Kalothrix plumosum.
p. superbum ..	..	C.T. Drury (r.) (1886)	Finely flat-crested plumose raised from plumosum elegans and parent of A. F.-f. p. Druryii, and the following.
p. s. crispatum ..	..	C.T. Drury (r.) (1886)	Uncrested, lax, and crispate.
p. s. dissectum ..	..	..	An improved p. elegans, uncrested.
p. s. foliosum ..	..	..	Uncrested, dense fronded.
p. s. grandiceps ..	..	..	Very heavy crests.
p. s. Kalon ..	..	..	Lax, flat-crested, very handsome.
p. s. pericristatum ..	..	..	The finest pericristate form of all, plumose, and with pinnulets crested.
plumosum ..	Dorset ..	Wills (1869)	A very robust and finely cut form.
pulcherrimum ..	..	M.A. Walker (r.) (1868)	Dwarf, pinnules long and serrate; very pretty.
p. Jackson ..	..	Jackson ..	A more foliose form.
p. cristatum ..	..	..	A crested form.
Pullerii ..	Isle of Skye	Puller (1864)	A pinnate form, with short, rounded pinnules à la Frizellæ, but closer.
ramo-cristatum ..	..	..	Branched and crested.
ramosum ..	Woodhead.	Forster (1879)	Ramose.
ramulosissimum ..	Montgomery	Middleton (1872)	Fronds ramify from base, and all tips crested, very pretty, dwarf.
r. Mapplebeck ..	..	Mapplebeck (r.) (1870)	Ditto, but larger.
r. lineare ..	..	Edwards (1894)	Much branched, very slender.
rectangulare ..	Westmoreland	Mrs. Wilson (1870)	Divisions so slender that sori show on edges; pretty and curious.

Name.	Where Found or Raised.	Finder or Raiser and Date.	Description.
recurvum	Pinnules recurved, fronds crested.
multifidum	A curious flexuose form.
reflexum	Westmoreland	Clowes (1858)	Splendidly sub-plumose and precristate.
regale	..	Mr. Appleby Barnes (1867)	..
revolvens	Strathblane	C.T. Drury (1891)	Fronds and pinnæ rolled up convexly and symmetrically, terminals ringlet twisted.
rotundatum	A pinnate form, with short, rounded pinnules à la Frizellæ, but closer.
setigerum	Lancs.	Garnett (1878)	Normal outline beautifully divided, points bristly; yields crested forms from spores, very diverse, but with tendency to revert.
s. coronatum	..	Birkenhead and others	The names describe, but there are innumerable seedlings, one type merging into the other.
s. corymbiferum
s. cristatum
s. grandiceps
s. percrispum
s. Victoriæ	..	Birkenhead	A cross with Victoria, percrispate and crested like that, but bristly throughout.
Simpsonii	See congestum Simpson.
splendens	..	Craig (r.) (1864)	Finely crested; lovely thing.
stipatum	Cornwall	Paul (1864)	See congestum Paul.
superbum	See plumosum superbum.
thyssanotum	Pretty crested form.
Todeoides	..	Stansfield	Peculiarly neatly cut, but hardly Todea-like.
T. cristatum	..	Troughton (r.) (1882)	A charming crested form of same.
unco-glomeratum	..	Stansfield (r.) (1878)	Raised from acrocladon, unique, resembles a spherical green coral, division endless, culminating in bulbils and prothalli (apospory).
uncum	Levens	Barnes (1860)	Fronds very narrow, pinnules hooked.
velutinum	..	Stansfield (1878)	A dense, dwarf acrocladon.
Vernonæ	..	Vernon	A gem, divisions crispy and wide.
V. corymbiferum	..	Stansfield (1877)	Well crested form of above.
V. cristatum	..	Jones (r.) (1873)	..
Victoriæ	Stirling-shire	Cosh (1861)	Unique percrispate form, long slender pinnæ in pairs at right angles, with slender tassels at all terminals. Original nearly 4 feet.
V. elegans	..	Lowe, McNab	Sub-varieties, but none excel the original or differ markedly from it.
V. gracile	..	and others	..
V. magnificum
V. setigerum	See setigerum Victoriæ.

C. T. DRURY.

OPUNTIA BICOLOR.

THIS, on the whole, is quite the most satisfactory of all hardy Opuntias. It grows and flowers freely, and no other can claim to be so ornamental in flower. The accompanying illustration gives an excellent idea of a fine specimen growing in the Cambridge Botanic Garden. It measures 6 feet 9 inches in width, 2 feet 6 inches high, and 3 feet from front to back. The flowers are orange-yellow in colour, or they might be described, perhaps, as bronzy yellow, and are succeeded by red fruits, of which hundreds have been produced. They are not edible, and I have not observed that they ever contain good seed, but they are interesting and ornamental. Like their hardy Opuntias, this species, which comes from Chili, delights in the warm and sunny position provided by the foot of a south wall. The border on which it is planted should be slightly raised, and the low rockery, which serves for

Gerbera and various other plants, suits it perfectly. No cold we are likely to get in this country can do it harm, and I am not sure that it would mind any ordinary degree of wet in winter, provided that growth is well ripened before the end of summer. It is, however, worth while to throw off rain in winter by means of a light overhead, but this is all the protection it needs.

R. IRWIN LYNCH.

SOLANUM WENDLANDI IN THE OPEN AIR.

SOLANUM WENDLANDI, recently described by M. Ed. André in the *Revue Horticole*, is, in our opinion, one of the most beautiful plants that has been introduced during the last twenty years, as much through the exceptional beauty of its large mauve flowers as through the many uses to which it can be put. Notwithstanding that it is very tender, it can so easily be preserved during the winter in any healthy place that it may be grown by any amateur. It is a plant valuable alike for the permanent ornamentation of cold or temperate houses and for covering walls and trellises in the open air in summer. In Paris, *Solanum Wendlandi*

In default of a house for wintering the young plants, a deep frame or pit answers perfectly, or shallow pit if the stem of the plant be bent. Care must be taken, however, to protect them from frost.

In Paris one scarcely thinks of protecting them under a layer of litter, for although this protects them, it stifles them and causes them to rot from excess of humidity; at least, such was the result we observed last winter. Its cultivation in pots is very easy, any light fertile compost being suitable. Six-inch or 8-inch pots are large enough for cuttings. The cuttings all flower the first year, often when they are still young and scarcely 1 foot high, especially if they have been taken from a mature parent plant grown under glass. Another use of this *Solanum* is for room decoration, and in particular for sale in the flower markets.

With regard to its permanent cultivation under glass, although at first it was supposed to require a hothouse, it is known to-day that it does better in a temperate house, and also flourishes quite as well in a cold one. Last summer we saw it in all its splendour at Kew, where it is now in the Cactus house. Under the influence of a comparatively low temperature in winter, growth stops, the leaves fall, and the shoots ripen, but the following



OPUNTIA BICOLOR IN THE CAMBRIDGE BOTANIC GARDENS.

flourishes and flowers from July until the approach of frosts. Farther north, in England for example, it does still better in the open air. In 1899 the *Gardeners' Chronicle* produced a photograph of it planted in front of one of Sir Trevor Lawrence's greenhouses.

This beautiful *Solanum*, like all the species, loves heat, but at the foot of walls fully exposed at midday the heat of the sun often spoils the mauve colouring of its flowers. It should, therefore, for preference be planted in easterly or westerly positions, or in an open situation where this inconvenience is not experienced. In order that the plant may acquire all its vigour it must be planted in deep earth mixed with good hotbed manure and frequently watered. Occasional doses of liquid manure will be found beneficial. Under these conditions the plant will attain a height of from 7 feet to 10 feet in a single season. We cannot too strongly recommend this plant to amateurs for the ornamentation of house walls, trellises, vases, borders, &c. The plant cannot climb alone, but in default of trellis work, wire stretched horizontally or props will be found quite sufficient. Young spring cuttings should be struck for culture in the open ground, but as they flower late and become weak it is preferable to use one-year-old plants kept in pots and protected during the winter.

year the foliage is more luxuriant and the flowering more beautiful. It is then one of the best plants that can be used for porches, pillars, and trellis work if supported by wire. It can, if necessary, be kept in large pots or boxes, but it is preferable, in order that it may acquire the large dimensions of which it is capable, to plant it in a soil rich in humus. But it is for the south and especially for the favoured Nice district that *Solanum Wendlandi* seems to be particularly interesting for the outside decoration of houses. It would there probably survive the winter if protected by straw mats or canvas during the frosts, attain its normal dimensions, which are about 45 feet in height, and flower earlier in summer and later in autumn. No doubt it has already been tried. If so, it would be very interesting to know the results, those of last winter especially, which was particularly rigorous at a certain time.

As *Solanum Wendlandi* does not seed, its propagation is carried out by means of cuttings, and this is easy if care is taken to place some parent plants early in a hot or temperate house so that they may develop young shoots. These are removed when they are 1 inch or 2 inches high and rooted in the greenhouse under a hand glass or on a hotbed covered for the first few days. The cuttings that one could take, very economically during the summer, from shoots developed in the



ANEMONE CORONARIA AT LA MORTOLA.

open air unfortunately do not succeed; at least, such is our experience.—S. MOTTET, in the *Revue Horticole*.

THE FLOWER GARDEN.

ANEMONE CORONARIA AT LA MORTOLA, ITALY.

FROST during the past winter has proved most disastrous to gardens on the Riviera, and I have to mourn the loss of many plants, some of which are most difficult to replace. It is, therefore, some little satisfaction to say that *Anemone coronaria* was almost untouched by the frost, and a slope of about half an acre presented a scene of beauty I have never seen equalled in this flower. The accompanying photographs, taken by my friend Miss Willmott at a moment when perhaps 10,000 to 15,000 plants were in blossom at once, will give some idea of this great bed.

La Mortola.

T. HANBURY.

FLOWER-BEDS IN RIVIERA GARDENS.

THE charm and beauty of the gardens of Southern France and Northern Italy have often furnished material for notes, yet there always remains something of their vast floral wealth still unchronicled. A few notes upon the character

of the plants cultivated for the purpose of furnishing the flower-beds and borders, perhaps unequalled for variety and gorgeous colour, may not be uninteresting. The climatic conditions that here prevail of course make possible what otherwise could not be successfully attempted. Almost everything that one is familiar with in our greenhouses at home may be met with outdoors in Riviera gardens. Two of the most generally used plants embellishing the flower-beds during the winter months are *Chinese Primulas* and *Cinerarias*. Considerable difficulty is, however, experienced in growing them successfully, because of the intense heat that prevails during the summer-time. The seedlings need very careful attention or they are liable to go off by the dozen, more particularly the *Cinerarias*. These are very often attacked by a grub that works sad havoc with the foliage if its ravages are not checked in some way. During the day-time they cannot be found; they manage to hide in the soil or underneath the pots. The only method of exterminating them is to search very early in the morning when the dew is still on the plants, for this is the time that the grubs feed. The coolest and shadiest spot in the garden is generally reserved for *Cinerarias* and *Primulas*. The last-mentioned are made frequent use of as a component of narrow borders on the margins of walks or shrubberies, often being associated in such position with *Nemophilas*, *Santolinas*, *Thapsis*, &c. The blue *Primulas* are favourites with southern gardeners, and there is an excellent strain grown here, really a good blue. These show to much better advantage when placed in the shade than if planted in a sunny spot. In the latter case their true colour effect is altogether lost, but planted in some sombre position they are quite delightful. I think it may be safely said that *Cinerarias* make the most gorgeous beds of all; the variety of colour furnished by these flowers and their wonderful hues when massed in large beds produce a strikingly brilliant picture. In one particular garden it is not unusual to employ as many as 700 or 800 *Cineraria* plants in one bed alone, and by immediately replacing those that fade the brilliancy of the picture is long maintained.

Hyacinths and *Tulips* make very handsome beds, but with these one invariably finds but one or perhaps two colours associated in the one bed. The beauty of the *Hyacinth* and *Tulip* beds is much enhanced by the surface of the latter being covered with a lovely silvery moss that is obtained from the neighbouring hills; it forms an excellent background, and makes a pleasing covering over the bare soil. *Anemones* and *Ranunculuses* are favourites also, and make delightful subjects for the flower garden. None perhaps is more telling than the *Star Anemone* (*Anemone fulgens*), especially when this is planted in masses. *Freesias* even are planted out of doors, and if neatly staked so that the flowers will not be damaged by the

wind they grow very well. One may see also beds of various *Solanums*; none, however, more picturesque than when filled with *S. ciliatum* var. *macrocarpum*. This plant bears rather large orange-red fruits, and a bed well furnished is very attractive. Daisies are conspicuous in nearly every garden, but are hardly recognisable by the side of home-grown ones, so much more vigorous are they, and of finer colour also. The same may be said of the *Pansies*, which make enormous clumps and become masses of flower. *Carnations* and *Salvias* in lesser quantities add to the variety of the southern flower garden. Of the latter, *S. patens* is the chief favourite, although *S. splendens* and its varieties play no unimportant part in the floral embellishment. Ghent *Azaleas* are occasionally to be seen, as well as beds of forced *Roses*, for which purposes such varieties as *La France*, *Gabrielle Luizet*, *Baroness Rothschild*, and *Ulrich Brunner* are well liked.

I remember once to have seen a bed of *Hippeastrums* in variety, the surface of the former being covered with *Pteris tremula*. This Fern made a beautiful green carpet and restful setting beneath the gorgeous *Hippeastrum* blooms. *Adiantum Capillus-veneris* is also sometimes used as a covering for the surface of the beds. Even forced *Genistas* and *Lilacs* are occasionally planted in beds in a few of the best kept gardens, and if given a slight protection should the weather happen to be at all rough they remain beautiful for weeks together. When one remembers that all these choice flowers are at their best during the first three months of the year, and that they are but dashes of colour amidst an almost tropical environment of various *Palms*, *Dracenas*, *Yuccas*, *Aloes*, *Agaves*, &c., one does not wonder that they are deeply appreciated by those fortunate enough to be able to have any of them. A. P. H.

MR. JOHN WOOD'S DWARF SOLOMON'S SEAL.

AMONG the many interesting and useful notes contributed to THE GARDEN by the late Mr. John Wood, of Kirkstall, were references to a dwarf *Solomon's Seal* unknown to him by name. I have had it for several years, but my plants have not grown nearly so well as some in the garden of Mr. James Davidson, of Summerville, Dumfries, where there is a good mass in one of the herbaceous borders. I saw this near the end of May, when the plants were in full bloom, and when one appreciated more than ever the place that this plant might occupy in our gardens. It seems to me to come nearer *Polygonatum japonicum* than any other of the genus, but its height never appears to exceed 6 inches or 9 inches. It runs a little at the root, but not so much as to become troublesome where ordinary care is exercised. It forms a spreading rather than a dense mass, and looks to me to be emphatically one which should have a dwarf carpeter beside it which would cover the vacant soil between its arching stems of green leaves and white and green flowers. At Summerville it was without this, but here it grows through a carpet of hardy *Lycopodium*, though I should now give it one even more compact. As I shall move it to a moister place I purpose trying this.

Carsethorn, N. B.

S. ARNOTT.

THE UNHEATED GREENHOUSE.

V.—PLANTS SUITABLE AND UNSUITABLE.

IT is natural enough for those who are young in gardening matters to be disappointed when they are warned that plants from the hardy and half-hardy classes only must be reckoned upon for cold greenhouse culture. What is the use of a greenhouse at all, they are ready to ask, if only common, everyday flowers can be grown in it?

Let me try to expound both its use and its charm. The craving for flowers is universal, but in winter we want them in our rooms rather than out of doors. The garden has a winter beauty of its own, and we know and love it well, but it is not the beauty of flowers. The tracery of bare boughs against the sky, the glow of scarlet Holly

berries midst polished leaves, the quiet grey tones of Rosemary and Lavender—all these in their various ways give a sense of restful waiting for the coming activities of spring, and they are very dear to us. But all the same we want flowers, for lacking two things—books and flowers—no home looks home-like. We can buy them, doubtless, but “boughten” flowers do not satisfy the craving that will not be still, and we wander out into the garden ready to welcome the homeliest floweret which has dared to brave the winter storms. What are we likely in most localities to find? Christmas Roses maybe, but besmirched Snowdrops, not always snow white unless, haply, a carpet of turf lies spread beneath them; Laurustinus, hopeful-looking at a distance, but sear and brown on closer view; the earlier Crocus buds and Primroses wantonly nipped off by saucy sparrows; the rest, as yet, awaiting their awakening. A handful of purple-brown Mahonia leaves, a few half-opened buds of double Daffodil from a sheltered corner, some clustering Ivy or a spray or two of variegated Box—these form the sum total of what many a garden gay enough in summer is able to produce. Whether we will or no, for our winter posy we must needs go to the greenhouse. Call to mind the most common everyday flowers that we know—Daffodils, Hyacinths, Wallflowers, Stocks, Crocus, Forget-me-not, Violets—and think whether a greenhouse filled with such as these would not be an enviable possession from Christmas onwards? And, then, if we are not flower lovers merely, but plant lovers—a very different cult—how keen is the disappointment when, after months of patient tending of one and another of the lovely green things upon the earth which are to us as priceless gems, we are robbed of the full fruition of our labours by treacheries of weather or hungry bandits in the shape of slugs and snails. The open ground is no safe place to which we dare trust our rarest treasures, and a sheltering frame becomes a necessity, and sooner or later the frame will need expansion into larger space, where we may group and make pictures of our plants and enjoy them to our heart's content. Yet it is a mistake to think that hardy flowers need be common. The finer sorts are always worthy if we take the pains to seek for them, and it is their earlier flowering under shelter, no less than their own peerless beauty and sweetness, that gives them their claim to the greenhouse. A

greater mistake still would be to think that even such everyday things will bless us with so early a grace, unless we lay our plans with intention and remember cheerless winter days to come when summer yet holds her lap full of flowers.

HARDY PLANTS.

Let us try to define the distinction between hardy and half-hardy plants from the point of view of the unheated greenhouse. Hardy plants, as we know, are those which need no protection to enable them to withstand without injury the frequent changes of our climate in all parts of the United Kingdom, but for greenhouse purposes we must gather out of these such as can be made decorative either for foliage or for flower during the flowerless season. Roughly speaking, this season extends from October, when the first keen frost sweeps its sharp scythe over the autumn garden until March, or even later as in a year like the present, when swelling buds and the blackbird's mellow pipe tell us that spring is here. Before Christmas Chrysanthemums, late Tea and China Roses, a few annuals especially prepared like Cosmos, the crimson spikes of Schizostylis, Carnations of the Margherita type, late purple Asters too tardy to open out of doors, and many another bright flower will come to our aid. With the new year and before if we try we can have Roman Hyacinths, paper and the early Scilly White Narcissus, scarlet Van Thol Tulips, and Christmas Roses, while the cheerful gleam of Coronilla and Winter Jasmine and the lovely cream-white flowers and buds of the Box-leaved Myrtle and of Laurustinus will not leave us forlorn even at that pitiless season. Then will follow a long procession of spring bulbs, herbaceous perennials, and shrubs, which it is our business to coax into flower to fill in the remainder of the weeks until the greenhouse needs no longer to take the place of the outer air. So much as this, and, indeed, much more, may be done without any firing at all, for these are all hardy plants, but not without some extra care when the weather is specially severe, and maybe on occasion at the cost of a little drooping not very harmful of the more tender flowers. Not without energy and perseverance and forethought besides, for the winter campaign must be prepared for in two ways—(1) by retarding such summer flowers as can be kept back to bloom in the latest autumn, and (2) by bringing spring plants into

flower before their due season. Midway between these two comes another class, of which early Rhododendrons and Azaleas are a type, which flower naturally almost at midwinter, but seldom escape unhurt if they remain unsheltered. A limit, indeed, can scarcely be put upon the hardy spring flower Anemones, alpine Primulas, Orobanch, Saxifrages, Cyclamen verum, and Doronicums, to name but a few out of a host which lend themselves with gratitude and enjoy such gentle forcing as the shelter of glass can give them. They come from many lands and often from climates much more vigorous than our own, but where they are neither puzzled by the wiles nor entrapped by the cruel ogre of the weather, who entices them with smiles one day to gobble them up on the next.

There is but one hardy plant which for this purpose, perhaps for its very hardiness, I, for my own part, would not choose—the low-growing herbaceous Heath (*Erica carnea*). Be the winter what it may it never loses heart of grace, but bides its time. It may blush into perfect beauty a little sooner or a little later as the season lets it, but no storm seems to harm, no stress to change it; all hurtful creatures pass it by, only the bees murmur over it their first happy thanksgiving as they sip the nectar from its tiny flasks. Most flowers we love to gather and bring indoors, but not this one. True child of the mountains and the moor it asks no shelter; let us leave it to its liberty, for, as it seems to me, it is happier so.

HALF-HARDY PLANTS.

It is customary to count as half-hardy many of the soft-wooded plants which are used for summer bedding, such as Pelargoniums, Heliotropes, Ageratum, Cupheas, and the like, but it is a misleading term as far as the unheated greenhouse is concerned, for in no part of the British Isles will these survive a winter out of doors, and they might perhaps be more accurately described as sub-tropical. It is true that Pelargoniums of certain sorts thrive all the year round in sheltered spots in the Isles of Scilly, but whole hedges of them were cut down to the ground-line in a disastrous winter some years ago when there was a most unusual visitation of 10° of frost. It is also true that they will exist under glass in a low temperature, but it must always be above 40° Fahr., for they quickly damp off unless there is enough warmth to keep them in a growing state, while to have zonal Pelargoniums in bloom during the winter requires not only a season of special preparation beforehand, but a temperature equal to summer heat, hence it is plain that they cannot be recommended for the cold greenhouse.

Ordinary greenhouse plants again, such as *Libonia floribunda*, *Bouvardia*, Chinese Primula, and even Persian Cyclamen must be put out of our thoughts, though the last two do excellently well in the windows of light warm rooms. It must therefore be clearly understood that by “half-hardy” in these pages it is intended to express the degree of hardiness which will pass safely through an ordinary winter in the open garden in the Isle of Wight or in Devon and Cornwall, and which is able to endure a trifle of frost for a short time in a dry, still atmosphere without permanent injury. But even for half-hardy plants like these the mere shelter of glass will not suffice, because the advantages of climate afforded by the South Coast are exceptional, and therefore if we decide to grow the more tender amongst them we must make up our minds to provide some temporary means of raising the temperature in severe weather. Amongst the half-hardy plants that are suitable under these condi-



ANEMONE CORONARIA IN MR. HANBURY'S GARDEN NEAR VENTIMIGLIA, ITALY.

tions we may include some of the Heaths and handsome South African Crassulas and Mesembryanthemus, as well as Gladioli, Lachenalias, Crinum, and other bulbs from the same regions, the Disas and some terrestrial Orchids of Table Mountain; Acacias, Boronias, Correas, and other hard-wooded plants from Australia and New Zealand; strange Cacti and Mamillarias from the arid plains of the southern United States; Rhododendrons from the Himalayas, verily a goodly company, with infinite variety from which to choose.

It may be added that the two classes of hardy plants and half-hardy plants overlap each other, and that some things reckoned tender will survive when hardier ones fail, but the reason is probably found to be some accident of individual constitution rather than in any question of temperature. Many of the plants here mentioned require special treatment and are not altogether easy to succeed with, *e.g.*, the hard-wooded

for which a certain amount of heating power is required, though not enough to render the term "unheated greenhouse" a contradiction, inasmuch as it need be in most cases merely a transient encumbrance and not a permanent one. In either case some knowledge of plants and a hearty desire to know more is inseparable from the true enjoyment of this or, indeed, any other branch of gardening. With regard to culture nothing teaches so much as practice, and when the true gardening instinct exists the early stage of helpless ignorance soon gives place to greater assurance, as we take advantage day by day of every hint, spoken and written, that comes in our way. Then as experience grows we begin to make experiments on our own account, for there is no doubt whatever that many plants may be educated and made to adapt themselves to environments other than those that are natural to them, and herein lies one of the many interesting features of advanced work in a cold greenhouse. A genera-

greenhouse we may lay aside all misgivings, so long as we make no mistakes between plants suitable and unsuitable to be grown in it. K. L. D.

THE ROSE GARDEN.

THE GLOIRE DE DIJON GROUP UNDER GLASS.

SURELY no more useful Rose was ever raised than Gloire de Dijon. It was introduced by M. Jacotot in 1853, its raiser achieving fame at a single stroke, for I am not aware that he ever produced another seedling. Gloire de Dijon is believed by many to be a hybrid Tea—certainly it is not a pure Tea—but as to its pedigree I believe the raiser was entirely ignorant. Many Roses are now spoken of as seedlings of Gloire de Dijon, but



A HEDGE OF DUNDEE RAMBLER ROSE IN MESSRS. BENJAMIN CANT AND SONS' NURSERY, COLCHESTER.

Australasians, which are, nevertheless, well worthy of all the pains and care that can be bestowed upon them. Others, again, like the Cape bulbs, present no difficulty of culture when once their management is understood, as in the case of Nerines, while succulent plants are the most long-suffering of all green things, living and often even thriving under positive neglect, yet rewarding, many of them, the most moderate understanding of their wants with largest interest of brilliant and sometimes gorgeous flower.

It is very needful that the distinctions which I have tried to make clear between plants suitable and unsuitable for the unheated greenhouse should be carefully noted, for nothing but disappointment can follow an attempt to make a simple glass shelter do duty for a house capable of being heated up to Orchid or even Pelargonium pitch. No less important is it clearly to define our intentions to ourselves as to whether we grow hardy plants only or whether we wish to include the less hardy

tion since numbers of plants now commonly to be found in our garden borders were grown under glass and reckoned too tender to be trusted out of doors. The result of experiments during many years in testing the capabilities of unheated houses in my own garden proved to demonstration that a fair proportion of plants will succeed admirably under good management, and are less subject to blight and disease in a much lower temperature than is usually supposed to be indispensable to them.

The same effects, it is true, may be traced from the different modes of treatment, as may be noticed in Switzerland between the plants of the valley and those of the bleaker mountain side—the growth is not so rapid, and luxuriance is restricted. But what is lost in these respects is made up in added vigour of constitution and greater power of resistance to the attacks of insect pests and even in more abundant flower. Therefore in choosing plants for the unheated

I think the assertion is recklessly made, as not one of them possess the hardy nature of the old "Glory." Everyone knows how good this Rose is outdoors, and no one more so than the cottager. Many a fine bush and standard may be seen adorning the humblest dwelling, and where it is lovingly tended what a splendid mass of blossom is obtained! It would be sacrilege to cut away its fine growths, so the cottager will spread them out, bend them about, and train them in various ways, not always with a knowledge that this is just the best way to treat it, but simply because they are loth to part with its growths. And how it responds to the painful of liquid manure given now and again!

But is it grown under glass so much as it should be? In the bud and half-open stage, under good culture, its flowers are as clean and refined as the best of the Teas, and the fragrance delicious. One need not fear planting it in an unheated greenhouse, and it will thrive in shade where many

Roses would fail. I would recommend anyone having a large conservatory to plant a standard or two of the old favourite, and bend over the shoots umbrella fashion, and I will guarantee they will have no more lovely object in the structure when these trained growths are covered with bloom. The advantage of securing well-ripened annual shoots cannot be over-estimated, so that hard pruning should be resorted to after flowering to encourage new wood.

Though admitting that Gloire de Dijon is one of the best Roses grown, it is freely conceded that Bouquet d'Or is the more perfect flower and the richest in colour. As a greenhouse kind it is superb. Mme. Moreau is still more intense in colour; in fact, many of its flowers are as brilliant as the new Sunrise. But it has its faults, one of them being a strong tendency to mildew. If this variety is grown Mme. Berard is not required, but for growth I should prefer the latter.

Belle Lyonnaise is a soft lemon colour, an excellent Rose in every respect both indoors and out; and Le Soleil, somewhat resembling the latter, with an additional attraction in the form of a pink shading on the lemon colour, is too good to lose, although it is rarely heard of. What a number of exquisite Roses pass into oblivion simply because of the craze for novelty, and I could recall several infinitely more beautiful than many of the so-called improvements that are produced in such abundance at the present day. In a cold house the fine sport from Gloire de Dijon named Kaiserin Friedrich would develop the

charming pink suffusion of its creamy petals which renders it such a favourite outdoors in autumn.

The aim should be to encourage a healthy but not rank growth. A well-rooted plant, be it standard or bush, on wall or pillar, can utilise when plenty of foliage has developed, a liberal watering with some good artificial manure, but this must not be overdone or the evil results will be apparent the next year. A safe stimulant is the drainings from a cow shed applied about twice a week. One gallon of such liquor, perfectly clear, to 8 gallons or 10 gallons of water, will make a marked improvement in the vigour of a Rose, but as individuals thrive best on a changed diet, so it is advisable to afford our Roses a variety if given with judgment.

AYRSHIRE ROSE DUNDEE RAMBLER.

DOUBTLESS the beautiful Ayrshire Roses reach the climax of their perfection when they are found draping the walls and turrets of mansions or covering the thatched roof of the cottage with their garlands of flowers; but there are other ways in which they may be usefully employed, and in which their profusion of bloom, if short lived, is fully seen, chief among these being tall hedges or really walls of Roses.

Why some individuals will persist in planting the evil-smelling Privet I cannot imagine when beautiful and fragrant hedges of Roses may be had at small

collection. One excellent manner of displaying the beauty of the Ayrshire and Evergreen Roses is to bud them upon tall standard Briars, so that their long growths trail down to the ground making graceful streamers of blossom. I have met with some such plants in which the Briar stem has been so completely hidden by the thicket of growth as to be entirely invisible, the plant resembling when in full bloom nothing less than a huge snowball. Single plants of Dundee Rambler will quickly form a natural arbour if a little training be adopted at first. After the plants have become established it is best to leave them to their own devices, simply removing dead or decaying growths and clipping away overhanging branches.

In planting the Dundee Rambler and other Rambler Roses with the idea of forming a hedge or barrier, one must be careful to make a good commencement, for when once planted they are practically a fixture. Trench the ground well and deeply, and if there happens to be any spare artificial manure, such as crushed bones, give a good dressing, so that when established the roots obtain the benefit of some good lasting fertiliser. Stout posts should be set into the ground, and some wires stretched between

on which to train the growths. The wires should be placed nearly as high as the wall or hedge is desired to be. Usually 8 feet or 9 feet is high enough for all practical purposes. When the plants are some five or six years old they will practically support themselves, but unless they are given these wire supports at first the growths tumble over in such a helpless mass that the best effect of their blossom is lost. Where possible, the plants should be on their own roots, and be planted about 4 feet apart. There are now so many splendid rambling Roses suitable for hedge making that one can select almost any colour. Aglaia is a grand creamy yellow variety for the purpose, so also is Crimson Rambler. Félicité Perpétue is unequalled as a white. Aimée Vibert, by reason of its evergreen nature, is in much request, and Reine Olga de Wurtemberg is another good kind and almost evergreen. The only want now seems to be a perpetual flowering rambling tribe. Where a good late bloomer is wanted Longworth Rambler is a fine kind, but is not quite so free as the Ayrshires.

PHILOMEL.

SENECIO MAGNIFICUS.

(From a drawing made at Kew by

H. G. Moon.)

cost. The variety Dundee Rambler is one of the most rampant of the whole group, making fine long wiry growths, elegant and graceful in the extreme when bespangled with the pretty semi-double white flowers. This kind reminds one very much of the wild Roses that so plentifully abound in the hedgerows of our rural districts. What a charming picture these wildings of Nature make, teaching us in their free unfettered rambling growths what we may accomplish with the perhaps more refined clambering Roses of our present

AN ARTIST'S NOTE-BOOK.

SENECIO MAGNIFICUS.

NEWLY-INTRODUCED plant nowadays has two claims to the attention of horticulturists—first as a useful or ornamental plant; and, secondly, as a breeder from which good things may be obtained by hybridisation. If a plant cannot be recommended for the former it receives consideration in the latter capacity. It would be easy to name a long list of species which have proved breeders of high-class garden plants, although they themselves were inferior. The introduction from Australia of a distinct and horticulturally new Groundsel (*S. magnificus*) is



the latest example. In itself of no more decorative value than the common Ragwort, if as much, it is nevertheless possessed of certain peculiarities, especially of habit and foliage and time of flowering, that have already appealed to the raisers of hybrids, and the prospect of infusing some of these characters into such as the garden Cineraria, which is of course a Senecio, or the African *S. lilacinus*, or the beautiful but delicate *S. pulcher* from Brazil, has given the new comer an interest which otherwise it would not have. Of the thousand or so species of Senecio distributed all over the world, some twenty-five are natives of and peculiar to Australia, and *S. magnificus* is one of them. It is an erect, glabrous, and glaucous shrub, 3 feet high, freely branched, the stems cylindrical and striate, the leaves spatulate, coarsely toothed, narrowest at the base, 3 inches long, 1 inch wide, and almost succulent in texture. The flowers are in erect terminal corymbs of from four to a dozen heads, each $1\frac{1}{2}$ inches across, with from eight to twelve ray florets coloured primrose-yellow, and a disc of a darker shade of yellow. They last a week or more, and the plant continues to develop them from early autumn to mid-winter; at any rate, it has done so at Kew, having been raised from seeds received two years ago from Sydney. It is perennial, cuttings of it root readily, and it appears likely to be fruitful of seeds. W. W.

FOREIGN NOTES.

NOTES FROM FRANCE.

THE flower show held in the Tuileries Gardens at Paris on May 29 and three following days was not favoured by such weather as the Temple show, for a thunderstorm of tropical violence descended very shortly after the opening and entirely flooded the tents, the rain destroying the more delicate flowers, even under the canvas, and rendering the ground a perfect quagmire ever after. The heat was very great as well, so it is to be feared that the show will not prove a financial success, though it is interesting from many points of view.

The French custom of bedding out their exhibits on the ground is a great merit from a spectator's point of view, the flowers look so much better from above than when staged on high benches. It is a great pity space does not allow such treatment in England, for it would be much appreciated by all lovers of the beautiful. There were many interesting exhibits outside the tents, of various appliances for gardens, which showed much ingenuity and neatness that might be copied with advantage by English horticulturists, who are far behind in this matter.

On entering the big tent the *coup d'œil* was very fine with Moser's enormous Rhododendrons on either side, and Vilmorin's splendid display in front. The beds of Cannas shown by Vilmorin were gorgeous in the extreme, and it is no longer an exaggeration to call them Gladiolus-flowered; the size of bloom and length of spike were greatly in advance of what I had seen. Of new shades of colour, Pasteur, a clear rose; Comte de Saxe, a wonderful red; and Hesperide, a pure orange, struck me as most beautiful, and a clear lemon-yellow in another exhibit was also a great acquisition. The pretty annual *Nycteria* edged the whole bed very well. I do not think we appreciate its beauty in England.

A large bed of annuals was another very interesting exhibit, and one well worthy of imitation; the whole mass was brilliantly edged with the yellow Gamolepis *Tagetes*, which is a delightful Ragwort, worthy a place in any garden.

Seedling Carnations (tree) were very finely shown by Vacherot; they were very similar but

not quite so fine as those shown at Nice by Ardisson and others, nevertheless they were a wonderful advance on all others. The new copper-coloured *Musa* and the beautiful *Rubus reflexus* were well shown, and will prove additions to any garden. Then came a blaze of *Geraniums*, chiefly bedding, and of much excellence. Several quite new shades of colour were shown, with an uniformity of habit and size of truss that was striking; it was worthy of note that the scarlet *Geranium* Paul Crampel still holds its own as best, but Admiral Avellan, a new shade of brick-red, was quite the most beautiful of all; Mons. Viard, salmon; Brière de L'Isle, coral-red; and Jeanne Poirier, white, were also unsurpassed anywhere.

Regnier's *Phalenopsis* and Maron's hybrid *Cattleyas* were finest among the Orchids. It was very interesting to see side by side fine specimens of *Laelia callistoglossa* and *L. Mme. Selac*, both splendidly beautiful, and then the curious disappointment of such hybrids as the *L. purpurata* and *Cattleya Mossie* seedlings shown, which were all inferior to their parents, and in my judgment worthless.

The heat had entirely ruined the *Pæonies* of all sorts and the forced *Roses*, which were in any case very inferior to English exhibits, but *Syringa Bretschneideri* stood out triumphantly and proved itself a beautiful thing.

The tropical fruits were beyond praise for their perfection. The *Asparagus* weighed 6oz. a stick (who could eat it?), and General Chanzy and St. Antoine de Padoue were very fine *Strawberries*. E. H. WOODALL.

PART OF A GARDEN OF FORMAL DESIGN.

THE illustration shows a part of a garden of strict formality in a place in Sussex, whose owner, an artist who has a profound knowledge of decorative methods, is gradually moulding his garden to his will. Some of it is as yet not mature; the *Rose* arches are not yet covered with that bountiful mass of gracious growth that will give the smiling aspect that some of us so much desire in a garden whose lines are for the most part austere; but in a few years, when the rigid lines are somewhat softened by kindly overgrowth, and the bare beds show a wealth of flower, and it has all "come together," and the picture is as complete as in the mind of the designer, even those who are least in sympathy with the most rigid treatment of symmetrical garden planning will see what was intended, and will find that it is good.

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

DURING the rush of the planting season many things will have been to a certain extent neglected, and to these attention should be at once turned. Weeds will have grown up in the borders and beds, for, however unpropitious the weather may be, nothing but strict attention with the hoe will keep our native weeds in subjection, and hoeing has, too, the beneficial effect of turning the surface soil into a kind of mulching that helps plants to go through a dry time without suffering greatly. The regulating and

TYING IN OF CREEPERS,

so that they may cover their allotted space pretty equally, is another matter that must not be overlooked, for, though many of them grow naturally in a tangle, such tangles do not produce the best effect, except perhaps in the wild garden. I alluded some time back to the necessity for staking many of the herbaceous plants. These will require further attention in the way of ties, and any that were not then forward enough to have the stakes put to them without making them look unsightly

will now be far enough advanced to cover most of the stakes with their growth. Among other things that will require stakes at once are the border *Carnations*. It is not easy to find stakes that are effective and inconspicuous for this purpose, but the "coil" painted iron stakes meet the difficulty, and should be used wherever the plants are in conspicuous positions, taking care to use some of the longer sizes, so that the upper portions of the stems may be supported and relieved of the weight of the expanding flowers. Another point with *Carnations* that does not often get sufficient consideration is that of disbudding. Many buds are formed that cannot, from the position they occupy on the stems, be of the least service for cutting, and if these are removed, leaving the remainder at fair distances apart, better flowers, each with a stem sufficiently long for use, may be had without sacrificing any buds or half-opened flowers.

MARGUERITE CARNATIONS.

Strong plants of these put out now in a sunny border will give a fine lot of flowers for autumn cutting if the season is a fine one, and they are so useful that a batch ought to be planted with that in view. Wherever there is a great demand for cut flowers—and the flower garden or borders proper are not expected to be used as a source of this supply—provision should be made by planting out batches of the most useful plants for the purpose somewhere in the reserve garden or in out-of-the-way corners, where the unsightliness of the plants when denuded of their flowers will not be so much noticed. Odds and ends of the best annuals may thus be turned to good account.

DAFFODILS.

Any Daffodils that may need division, either through having occupied the ground long enough or for purposes of extension, should now be lifted, for the first heavy rain experienced after the middle of June will cause them to commence root action, and this should not be allowed before lifting. It is really much safer to lift even while the leaves still have some green left in them than to delay too long. After being lifted they may be kept out of the ground for a few weeks if other work is pressing, but it is much better to replant at once. In planting the bulbs see that each rests firmly on the soil at its base, for bulbs that are "hung up" through making the hole too small at the bottom do not grow well. J. C. TALLACK.

Shipley Hall Gardens, Derby.

KITCHEN GARDEN.

SPRING-SOWN ONIONS.

THE dry weather of the past month has considerably delayed the thinning of this crop and strengthened the case in favour of thin sowing. If seeds were tested by the gardener previous to sowing very little thinning need be necessary, for a pot with a number of seeds sown in it and placed in heat will soon show the percentage of plants to be expected from the seed sown in the open garden, and considerably lessen the need for thinning at all, especially where a plentiful supply of medium-sized bulbs is required. As a rule, moderate-sized Onions keep longer than large ones, and are just as good, or even better from a culinary point of view. To grow long-keeping bulbs it is not necessary to thin the plants to more than a finger's length apart, for it is well known that only well-ripened Onions will keep till Onions come again, and these are most likely to be obtained from beds that have only been moderately thinned. Here we have supplied Onions of last season's growth up to the 4th inst., and on that day commenced pulling moderate-sized bulbs from seed sown last autumn. Exhibition Onions should be encouraged as much as possible by frequent waterings of liquid manure and dustings of soot and guano. The hoe should also be kept at work between the plants, which will not only keep them free from weeds but prevent the soil from cracking during the dry weather.

COLEWORTS

should be sown now for use in the late autumn, but for plants intended to stand the winter the seed should not be sown for another fortnight

Rosette is the best variety for sowing now, but for plants to stand the winter the Hardy Green variety is the best. It will stand through a very severe winter, and prove valuable for early spring use, to come in before autumn-planted Cabbage. The seed should be sown on a north border, where the soil is rather poor, in order to keep the plants as hardy and stocky as possible. As soon as large enough they may be put out in rows 1 foot apart and the same distance between the plants. With liberal treatment after planting this will prove a valuable crop of well-flavoured hardy greens the winter through. Continue to plant out as opportunity arises such crops as

BRUSSELS SPROUTS,

Scotch Kale, and Early Broccoli, and if the weather continues dry the drills in which they are to be planted should be well saturated with clear water, as well as a good watering after planting, to settle the soil about the roots. The beds in which the young plants are growing should not be watered, in order to keep them hard and better able to stand against the effects of strong sun after planting. The main crop of

CELERY

should be planted as soon as ready, and before the roots have taken full possession of the bed in which they are growing. Before moving the plants the beds should be well watered, in order to avoid as far as possible the ill effects of moving. The plants must never be allowed to become dry or disappointment is almost sure to follow. Finish pricking out young plants from the seed beds for the latest batch, and keep them growing as freely

as possible. Whenever a crop of vegetables is over it is good policy to manure and dig the land as soon as possible, so as to be

READY FOR ANOTHER CROP,

for nothing is more harmful to the ground than to allow a plot of vegetables to stand after they have run to seed, and I know of nothing that can give the garden a more untidy appearance. Keep the hoe going as freely as possible during dry weather, so that when rain does come there will be little of that kind of work to do, and full advantage can be taken of the change to put out as many plants as possible. Where late Broad Beans are desired, the last sowing may be made now in a somewhat shady situation.

JOHN DUNN.

Royal Kitchen Gardens, Windsor.

THE FRUIT GARDEN.

CHERRIES ON WALLS.

OWING to the drying east winds during May the young growths are suffering from black aphid. This pest must be cleared as soon as it is observed, as not only does it cripple the growths, but makes the fruit objectionable. In our own case quassia extract is used, but only with fruit not coloured. I have seen fine crops ruined by using strong insecticides at this period of the year, so that if quassia or other things are used for cleansing far better apply weak doses, and syringe afterwards with clean water. No matter how thoroughly anyone cleanses the trees, the shoots at the ends curl or fold up, and the mixture cannot reach the pest. It is well to crush the shoots between the

finger and thumb after the syringing, or, what is better, to cut away any shoots not required for extension, as the aphid is mostly at the extreme ends. One or two syringings may not suffice for badly infested trees, but it should be borne in mind that a thorough cleansing now will probably keep the trees clean through the season, and, if possible, it is well not to let trees get much infested before dressing. It is easy to stop old trees at this season, and better to do this while the shoots can be pinched than wait till they get strong, when a knife must be used. Early stopping induces spur growth, as it is upon the latter that the best dessert fruits are produced. These trees suffer from drought more quickly than other stone fruits, and in light soils early waterings are necessary—indeed, drought is answerable for the aphid spreading so quickly. A good mulch of decayed manure should be given before the fruits colour, so that when the trees are watered the moisture will be retained. The fruits will be finer and of better flavour if an early mulch is given, and in gardens where manures are scarce any other mulch, such as long litter or old Mushroom bed manure, will be beneficial.

OTHER HARDY FRUIT TREES.

Peaches and Nectarines on walls will now be stoning freely, and a final thinning should take place. Trees that are none too heavily cropped are making much wood, and this should be stopped so as to regulate the growths. Any cleansing should be taken in hand before the pest gets much headway. The same advice given for Cherries will apply here. Mildew often appears after a spell of



THE FORMAL GARDEN AT OLD PLACE, LINDFIELD.

warm weather—when a change occurs. Some trees are annually attacked, such kinds as Royal George and Noblesse being the worst, and I have found a sulphur solution the most effectual, though in mild cases dusting the trees over with dry sulphur may suffice. After hot sunshine the trees will greatly benefit by being syringed, or, what is better, hosed overhead late in the day. This is far better than damping over early in the day. One of the worst pests on hot dry walls with the Peach is red spider, but the latter cannot thrive if the foliage is moist at night, and a well moistened border will go a long way towards maintaining health. In many gardens the walls have rather wide copings, which are excellent earlier in the season, but now such copings prevent the dews and rains reaching the trees, and here I would advise paying more attention to the trees in the shape of moisture. Newly-planted trees must be sparsely cropped, and younger ones should have their main shoots trained in. This done it is an easy matter to regulate later growths. Pears will not be a heavy crop, I fear, but some kinds that fruit in clusters will well repay thinning. Apples are less numerous than last year, and the moth has already commenced its operations. In the case of bush fruits I would advise early hand-picking, burning the refuse. Any young trees will benefit by mulchings, and those newly planted should be watered. Strawberry quarters in this part are suffering from want of rain, and where an early mulch was given the plants will benefit. We are soaking our plants once a week to keep them going. Raspberries also are small in light soils, and here any assistance given in mulchings or waterings will be well repaid. It will assist Gooseberries heavily laden to thin the fruit when this is intended for dessert purposes. G. WYTHES.

Syon House Gardens, Brentford.

CHRYSANTHEMUMS.

SUMMER QUARTERS.

Too much attention can hardly be bestowed on the selection of a site on which the plants are to be grown and matured during the summer months. Japanese, Reflexed, and Anemones especially, must, to produce high-class flowers, be grown in a light, airy position, so that the wood has a fair chance to mature gradually all through the season. Some imagine that two or three weeks bright weather during September will be sufficient to accomplish this end. This is a mistake; the results in the end will chiefly depend on the treatment the plants have received from the first. The incurved section will perfect good blooms with less ripened wood. Indeed, it is possible to have it over-ripe, especially with some varieties, and when this is the case the blooms will not open kindly and the petals will be narrow and poor. Though, as before stated, an open position is most desirable, select that which is most sheltered from the west winds. After the final potting the plants are generally arranged pot to pot and in a sheltered position, and these will be perfectly safe for about a fortnight, when no time should be lost to afford them more light and air. Strong, neat posts should be driven in at intervals, to which should be stretched some stout tarcord. For many reasons wire is most objectionable. The plants should be stood either on slates or 9-inch boards; never trust to ashes alone to exclude worms. Arrange the plants in their various heights, so that one kind is not shaded by the other, and this is another reason in favour of single rows by the paths. Allow

PLENTY OF ROOM

between each plant, at least 15 inches, but if 18 inches so much the better. For the first few weeks especially the greatest care should be exercised in watering. Never water a plant on the chance of its being dry in an hour, thoroughly test each when any doubt exists, especially so by ringing it with the knuckles and lifting the pot. The experienced hand will find little difficulty in deciding this, but the beginner immediately the soil appears dry on the surface feels convinced it requires water, and thousands of plants are annually ruined by this cause alone.

Syringe freely morning and afternoon on fine days. Do not hurry to take off the side growths before the plants become well established, as these will all help to increase root action. Watch minutely for all insect pests, which will now begin to be troublesome. Green and black fly will be busy in the points of the growths, but these are easily dislodged by dusting during the evening with tobacco powder and syringe out in early morning. The leaf-miner is oftentimes very busy at this season, and will frequently do considerable mischief to the foliage unless steps are taken to eradicate it. It must be searched for and removed as carefully as possible with a sharp-pointed stick. E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

INDOOR GARDEN.

HERBACEOUS CALCEOLARIAS.

SEED of these showy plants should be sown in pans of light soil. Cover the seed very lightly, and a position in a cold frame where the pans can be well shaded until the seedlings are well up should be chosen, preferably that on a moist bottom, as this subject in the earlier stages of its growth especially delights in moist and cool surroundings, provided a circulation of air is always maintained, otherwise damping off is sure to follow. When sufficiently large to handle pot them singly into 2½-inch pots, and give a light and porous soil. Water being given they may be placed in a position as before, shaded from bright sun, the leaf frequently moistened in favourable weather, and after the first few days give air freely, as the Calceolaria is subject to attacks of green fly. Fumigate at intervals, never letting the pest get established.

HUMEA ELEGANS.

Similar treatment is also necessary in every detail. The plants when well grown are useful for house decoration, and every care should be taken to produce the best possible results.

POINSETTIAS.

As these root they should be potted up, using 3-inch pots and soil as follows: Loam, two parts; peat, one part; and the remaining part of equal quantities of leaf-soil and horse manure. A very slight dusting of Thomson's manure will, where the cuttings are weak, be of advantage. They had better be dipped in a safe insecticide previous to being potted. Another batch of cuttings may be put in and pushed on with all haste.

PELARGONIUMS.

Cuttings, where it is intended to furnish young stock, should be put in, placing them round the sides of 4½-inch pots. Dip these also. It is best, where the selection is left open to the grower, to cultivate varieties of distinct colourings, as they may be more readily associated with other plants. The work in the warmer houses will during this hot weather be limited to the necessary watering, damping down, and syringing, and care should be taken that the necessary amount of moisture be supplied, as the strong rays of the sun soon dry up and exhaust the plants. I have invariably made it a practice where this could be done with impunity to remove to a cooler house or potting shed any plants which were in need of cleansing. Here the work could more thoroughly and comfortably be done, and the incidental labour in removing and replacing the plants was never seriously taken into account.

The flowering quarters are now accommodating the last of the forcing plants, Azaleas, Spireas, &c., and the stock to follow should be carefully overhauled, pots washed, and every preparation made for them being located here in the course of the next week or so. J. F. McLEOD.

Dover House Gardens, Roehampton.

Patron of the Royal Botanic Society.—His Majesty the King has graciously consented to become the patron in succession to her late Majesty Queen Victoria, its first patron.

BRITISH HOMES AND GARDENS.

A NOTABLE GARDEN.

EDGBASTON, the most delightful of all the Birmingham suburbs, is rich in interesting gardens, and amongst them that surrounding The Uplands, Selby Oak, the residence of T. W. Webley, Esq., takes high rank in point of interest and beauty. Comparatively few years ago what is now an exceptionally good garden was almost a waste piece of ground; the full extent of it can hardly be 10 acres, yet it is replete with the best of garden plants, and, what is still more satisfactory, the great majority are thriving exceedingly well.

The sloping lawn, which stretches from the house to the lake, has around its margin a host of beautiful flowering and foliage plants. Either side of this narrow stretch of lawn is bordered by shrubberies planted with many of the best and choicest shrubs to be found in our nurseries. Mr. Webley has apparently made a point of obtaining the best possible representatives of each class of plants, for the Conifers, evergreen and deciduous shrubs, as well as herbaceous plants, are thoroughly typical. One is astonished at the luxuriance with which the Conifers and evergreens grow, especially when one considers that the soil here was none of the best in the first place. It is evident that much skilled labour and energy have been expended to obtain such results in the space of a few years, and under the adverse conditions of poor soil and a smoky neighbourhood. The Hollies are particularly fine, as also are the golden Conifers, including such as *Cupressus macrocarpa lutea*, that is now becoming so popular, and various golden *Retinosporas*, *Thuja*s, &c. *Cedrus atlantica glauca*, *C. atlantica aurea*, and *Sciadopitys verticillata* are very evident. *Pinus austriaca* and *P. excelsa* are also unusually vigorous. Of Bamboos, of which Mr. Webley has an extensive collection, *B. Metake*, *B. nigra*, and *Arundinaria Simonsi* are a few of those having developed into remarkably fine specimens.

In close proximity to the lake, which, by the way, is of varied and most pleasing design, and its borders skilfully planted, are large clumps of *Gyneryum argenteum*, *Eulalia japonica*, and *E. j. zebrina*, foliage plants, invaluable as decorative objects in summer time. Flag Irises abound by the waterside and provide a wealth of colour in June, while *Spiraeas* of sorts and *Hypericums* are also freely made use of. *H. moserianum* does not thrive so well here as *H. calycinum* and *H. patulum*. Such clumps of *Rhododendrons* are rarely seen in a suburban garden as fill several large beds just below the lake. They are masses of healthy green, and bristling with flower buds. The varieties *Lady Lansdowne*, *Purity*, and *Lady Clifford*, together with several more, unmistakably denote the best of culture.

The weeping forms of hardy trees and shrubs are quite a feature in Mr. Webley's garden. Weeping Hollies, Elms, Birches, &c., are largely planted in various portions of the grounds. Golden-foliaged trees, too, find favour here, and they undoubtedly assist greatly when judiciously planted in brightening and beautifying the shrubbery. The beautiful Japanese Maples, now obtainable in such wonderful tints of foliage, that range from green through shades innumerable to deep crimson, are also favourites with Mr. Webley, and when they

have taken on their autumn tints must be worth going a long journey to see. An excellent collection of Lilacs is here, although the varieties are not grouped together, but arranged throughout some considerable length of shrubbery. The useful, no less than the ornamental, is well looked after, as the beautifully trained specimen fruit trees bear witness. The dessert varieties of Apples and Pears are planted upon one quarter of the ground and the culinary sorts upon another, and each section is represented by such trees that one could not doubt their being capable of bearing exhibition fruit. Of great interest, too, are the Rose garden and alpine garden, neither of great extent, yet so well is the space at disposal utilised that better results and more real pleasure are obtained than is often the case with gardens extending over many more acres.

A JAMAICA GARDEN.

UP THE GARDEN.

"Is time hungry, Jacob?" It is Ledhu's formula, so convenient that it has been adopted. If the

after every rain. Five years ago there were 2 feet of apparently solid ground outside the conduit here. Now there is nothing. It runs at the very edge of the precipice. A bare shaley bank, and, 40 feet below, the public path; 200 feet below that some clumps of Bamboo and the river. A sharp corner and we face an entirely new scene, coming suddenly into view of the lateral ravine which is entered at this point. The mule track winds prettily downwards, crimson clusters of *Ipomœa Horsfalliæ* hanging out here and there. Our way crosses the track, the water tunnelling under, and, continues along the ledge or nick cut in the hill. Hereabouts it used to be all ragged bush. The lower side, an almost precipitous descent to the stream, which leaps in such haste to join the river, is left as it was. But it seemed good, in order to heighten the enjoyment of the bathing-place, to throw the upper side open to the sun, that, passing first through a zone of heat, one might better appreciate the coolness beyond. So for 50 yards the bush and tall grass has been billed, leaving just such native plants as look well. Aloes and Cassia are here in combination. Mountain Pride and the beautiful Ebony (*Brya Ebenus*), like a taller Broom with deep orange flowers wonderfully sweet, and a *Brunfelsia*, cream-flowered and bearing an amusing

Very beautiful are the miniature cliffs of limestone rock which now and then jut into the water, very little higher than the head, most of them; some bare, and so perfect in gradation of lovely colour, it would be a sin to cover them; others seamed and patched with Polypody. Here and there plants have been introduced, such as the wild *Leianthus longifolius*, generally called Yellow Fuchsia, but really a Gentian; *Selaginella Wildenowii*, with its tangling, climbing growth of peacock-blue; Begonias, Violets, and native Orchids; *Hedychium* straying down the bank and reaching up into the trees; *Passiflora edulis*, cool-rooted to delude it into the belief that it is in its own more congenial climate 1,000 feet or 2,000 feet higher; Ferns, of course, in plenty everywhere, and other *Selaginellas* and *Sinningia carolina major*, hanging out cool grey-blue bells, a fair substitute for Campanula. The planting was done once for all, and the ground is now never touched. It is a real wild garden, unmarred by intrusion of any tool whatsoever.

THE BATHING-PLACE.

And here we are arrived. Leaving the conduit-rill, whose intake is a short distance higher up, a path descends to the stream. This comes down in a series of waterfalls. I can count thirteen of them, little and big, from a few inches to 10 feet. Between the falls are narrow pools, the widest of these, well shaded by a Mango overhead, is my bathing-place. I read lately of a millionaire's bath which cost £200,000. I hope he gets the satisfaction out of it that I get out of mine, which cost 9d. for a broad seat. Perhaps thereto should be added half a day of Headlam's labour for rolling down smooth-faced stones from above and arranging them into a sufficient pavement. To those who want to swim and dive, and do heroic things in the water, my bath would be a disappointment. It is little more than waist deep, and quite a small pool; but it gives a sense of peculiar pleasure to lie in it, and with quickened breath take in the pure mountain air, and look up at the Ferns on the rock above so judiciously planted by the Great Planter. Just enough of them, and not more than enough. Old acquaintances you would say—Hart's-tongue, Spleenwort, Blechnum, Maidenhair, Polypody, and Filix-Mas. Yet in most cases the thing is not what it seems. The Hart's-tongue, for instance, or Cow-tongue, as we say here, is no *Scolopendrium*, but something entirely different. Into the mysteries of Jamaica Ferns, however, I will not further pry, only remarking that there are 500 species, and that most of them are beautiful.

Though the stream is so narrow in width, the volume of water is considerable, and its rushing noise in the confined gorge overcomes all external sounds. In the early days of August, when the anniversary of emancipation is celebrated with much beating of drums, this retired spot offers a welcome refuge. The bush is open, so that you can see far into it, and from its general appearance might be woodland in any country. Just round the seat the place is so pretty in its natural state that hardly anything has been done in the way of planting. Only a patch of the inevitable *Episcia*, intermixed with clear leaved *Peperomia* by the water's edge, one *Philodendron* to climb like a giant Ivy the almost perpendicular slope behind, and a few *Eucharis*, which gain in effect by not being too thick. I always think of this as the Snowflake of the Tropics, more important, but not more beautiful than *Leucojum aestivum* of Thames eyots. But time is hungry now, indeed, and I turn towards the house, which is reached in three minutes, more than ready for the midday repast, which we call breakfast.

BUTTERFLIES AND BIRDS.

Not the least among the pleasures of the garden are the visitors that it attracts. Zinnias are chief favourites with the butterflies, and Michaelmas Daisies appear to have no charms for them as they do for the blinking Red Admirals at home. At dusk great moths come out, anxious for the sweets of *Nicotiana affinis* and Jasmine, for which they have, no doubt, been long thirsting. But they must wait for their watchful enemy the Petchery, or as he is here called Papiri—accent in both cases



VIEW OF MR. WEBLEY'S HOUSE AND GARDEN.

answer is in the affirmative it means I must go to my bath. Stepping out of the back door, I review the cuttings under the north wall if it is winter, pass under a Papaw, and up a flight of grass steps flanked by an edging of rough stones. A patch of *Jacobæa Lilies* (*Sprekelia formosissima*) detains me for a moment. What a red! White Arums (*Calla*) fill up a wet corner just above, and I cross the rill at a spot already described, where the water falls through a planting of *Episcia* and *Begonia Rex*, the path always rising. On the right is a young Bread-fruit, which next year will give shade long desired in this region. On the left, the hillside, is a dry wall with *Adiantum tenerum* laid in between courses, and two stone seats a few yards apart, their fronts flush with the line of the wall, made practicable by careful choice of smoother stones. From the upper seat to the brick-red *Bougainvillea* the path gets very steep. A pull, but soon over, for in a short 20 yards the level of the conduit is reached.

ALONG THE CONDUIT.

Walking against the flow of the water, it is but a step or two to the danger spot, which is visited

out of door fruit, not good enough to bring in, but sweet and pleasant and sufficiently tempting in its place—all sorts of things that are shrubby and do not quite rise to the dignity and stature of trees. If it is a dull morning we linger over this open slope, if sunny walk quickly on. Cleared ground passes into partially cleared with Pimentoes and scattered trees. This soon again merges in natural bush, and the path, always following the conduit, gets shadier and shadier. Far below, on the right, can be heard the sound of the brawling stream. Flash of water may even be discerned by peering through branches. At Phaius Corner it is plainly seen.

PHAIUS CORNER AND ONWARDS.

Here the formal stonework of the conduit ends, and we have a tiny natural stream purling along the nearly level ground—a mere nick, as has been said, in the hillside. A few inches for the water, a path of varying width for the bather. Just here a whole 4 feet in places, which is something extraordinary, admitting of occasional doubling of plants in the otherwise single row of *Phaius grandifolius*.

on the second syllable—to go to bed. All day long he sits on some twig of vantage, looking so wise with his head on one side. A dash, a snap of the strong big beak, and he flies back to his perch, swallows his morsel, and cocks his eye in that funny sideways fashion, ready for the next. Anything big he hammers to death on the nearest convenient rail. Nothing comes amiss to him, bees, cockroaches, caterpillars, and all kinds of ground vermin. He follows fork and picker as the rook follows the plough. The gardener welcomes him, but the bee keeper looks askance.

There are many kinds of beautiful birds. Quits, that look and behave like tomtits, egrets, grey in youth, white in mature plumage, who in unsettled weather fly up the mountain valleys and have acquired a taste for gold-fish; banana birds, not beloved by growers of Yams, whose tender shoots they peck off, wantonly as it seems, but probably for the moisture they contain as the sparrows tweak your Primroses in dry March; robins, more properly green todies, green as parrots, with an insolent gash of red at their throats—sad coloured contrast; if only it had been yellow! Mocking birds, whose song rivals the nightingale, indeed, that is our name for them; woodpeckers tap-tapping; creepers searching every crack in the bark of the Cedars; John Crows, noisome things at close quarters, but with all the dignity of an eagle as they soar. These and many more, but the bird nearest to our hearts, the life and soul of the place, is the humming bird.

My dream was always of a home and garden in the tropics. All that could bear even remotely on this subject was eagerly scanned. My head became as stuffed full of miscellaneous information—a good deal of it probably false—as one of the Teufelsdröckh paper bags, and was in much the same state of confusion. But one thing was clear. In the East were no humming birds. Then to the East thou shalt not go, and so it fell out that the West Indies became the land of my choice, and, of the West Indies, putting aside solicitous hankerings after Dominica—Jamaica first. Merely because, of the mountainous islands, it was the biggest under the English flag, and so offered those conveniences of life which we have come to look upon as necessities.

HUMMING BIRDS.

It was in the winter of 1894 that I first saw humming birds. A Combretum purpureum is one of the chief attractions in the gardens at Castleton, a bright, pretty climber, whose red trusses of close packed flowers have just a suggestion of rustiness, that, if carried further, would detract from their agreeable appearance. But it is not to see the plant that the visitors crowd. All the humming birds in the district seem to be collected here, fluttering, darting, shrieking their sharp ping-ping, whether playing or fighting one cannot make out. One is poised on whirling wings, dipping his tongue into the tube of the flower, searching for insects, so naturalists think now, not honey. Another, with a little vengeful cry, rushes at him with his murderous rapier of a beak, and off they whirl together. Everything must be done in such a hurry. They seem intoxicated with the happiness of life, the gayest of living things. So tame, they will search the flower in your hand, so wild it is impossible to keep them in confinement. The commonest kind is the long-tail, a lovely burnished green shot with gold like some of the smallest feathers in a peacock. The male has two streamers by way of a tail, which stick out behind him in almost ludicrously disproportionate length to the size of his body.

Iochroma tubulosum is another of their favourite things. It has long tubes of deep violet colour hanging in pendent bunches on a tree about the size of a *Sparmannia* or *Datura* as these grow in the South of France. In the garden of a friend, who lives at an elevation of 4,000 feet, the long-tails hold revels round this as they do round the Combretum, at Castleton (500 feet). At my intermediate height (2,000 feet), I thought I would have both, and the humming birds come to neither. What is the matter? It is not that they halt between two opinions, and so never make up their

minds which to go to, for the Combretum was in flower a year before the other. No, it is the tricky waywardness of the little creatures. Here they frequent the Mahoe by the great tank and the single bible just in front of the windows. That is the Tom Tiddler's ground of one particular long-tail. If any other bird presumes to come, he dashes out with a shriek and chases the intruder away. Another lives under the Seaforthia Palm, and disputes my right to water there with emphasis. Or is he just playing a game with me as the kittens do, jumping into the line of spray, and as it catches them jumping away again—oh! so frightened.

CONCLUSION.

And here the account of my Jamaica Garden shall come to an end. It has, perchance, been too prolix, for does not one linger over what one loves? Yet, how much has been left untold. The night-scented Cereus has hung at early morning from the trees and rocks above the pond, and has mistaken for its own reflected image the Water Lily looking upwards with awakening eyes.

Poinciana regia has blushed for the sins of angels, for surely no sins of men could call such colours to its cheeks, and both have gone unrecorded. Unrecorded too—but no, the story of a Jamaica Garden is told. If your readers wish for more news from a strange land they shall have it in such occasional and detached articles as may seem suitable.

W. J.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

SINGLE WHITE PÆONY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—You may be interested in hearing of a Pæony which flowered in our college garden on May 25, I believe for the first time in this country. It was given to one of our Fellows two or three years ago as coming from the Black Mountain (Kafistan, which is politically part of Afghanistan, I believe). The flower is single and pure white; the stamens are very crowded and entirely hide the pistil, which is formed of only a single carpel. The mass of yellow anthers in the centre of the flowers is a beautiful and conspicuous feature. The leaf hardly differs in shape from that of *Pæonia officinalis*, but is somewhat glossier and brighter in colour. That, however, may only be an accidental circumstance which would vary under different treatment. I should be very grateful if you or any of the readers of THE GARDEN could tell me the Pæony's name. I can find nothing to correspond to it either in the Kew list or in "Johnston's Dictionary."

ARTHUR TILLEY.

King's College, Cambridge.
[We think it probable that the Pæony in question is one of the wild forms of *P. albiflora*, possibly the beautiful white flower known as *P. Whitleyi*, or it may be *P. Emodi* a much rarer plant. In "Nicholson's Dictionary" the synonyms and varieties of *P. albiflora* are given as follows: *Synonym, P. edulis*; varieties, *fragrans* (B. R. 485), *Humei sinensis* (B. M. 1768), *tatarica* (B. R. 42), *uniflora* (B. M. 1756), *vestalis* (A. B. R. 64), and *Whitleyi* (A. B. R. 612, B. R. 630). Perhaps others of our readers may confirm our impression or suggest a better answer.—Eds.]

BLIND POT STRAWBERRIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—With respect to the complaint as to pot Strawberry plants going blind, I do not think it is a common occurrence, but where it is the case I would like to ask any reader of THE GARDEN who has suffered from the trouble whether notice has been taken as to the nature of the crowns produced during the autumn and winter? Do those which are later found to be blind split during the winter or early spring, or do they remain solid and unbroken? I think it is most

likely were close observation made it would be found that those crowns which break or split into two or three smaller ones would be in each case too weak to produce flowers. If that be so, growers may tell ere they put their plants into warmth which ones will be fruitful and which the reverse. Reference has been made to the practice of stacking pot plants during the winter on their sides, as leading to excessive dryness and root loss. No one turns out finer fruits or heavier crops than Mr. Norman, at Hatfield, but he stands his plants out of doors on their bottoms, stacked in ashes, where the roots keep moist and plump. With good drainage and a hard floor there is no danger that the pots will get waterlogged. I have often had queries put to me as to whether plants put out into the open ground the previous autumn and have failed to fruit the succeeding spring are constitutionally blind. I have always replied that non-flowering is most likely due to their being late runners, and that they should have another year's trial. Only the other day a correspondent in doubt, last year, wrote saying that his plants now were one mass of bloom. Possibly some of the blindness of pot plants may be due to the original weakness of the runners. A. D.

DWARF HYDRANGEAS.

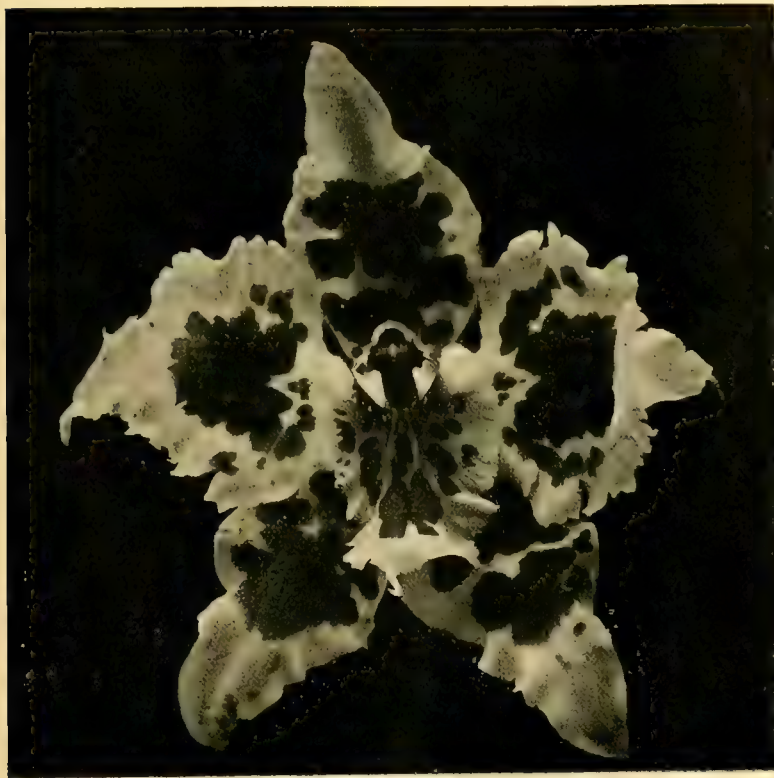
[TO THE EDITOR OF "THE GARDEN."]

SIR,—Too much cannot be said in favour of Hydrangeas, grown as detailed on page 409, while another point worthy of consideration is the variety that exists amongst them, as apart from the ordinary form there are several others, all of which make a good show, as illustrated by Messrs. Veitch in their recent exhibit at the Temple and Drill Hall. There is the variety *Cyanoclada*, *Nigra*, or *Mandschurica*, for all three names are used, with its polished purple black stems; *Mariesi*, whose showy sterile blossoms are limited to a scattered few around the outside of the cluster, but they are exceedingly large and of a pleasing shade of pink; *Rosea*, whose deep rose-coloured flowers are all sterile and borne in a very crowded head. This is a weaker grower than some of the others, but very effective from its distinct colour. A good white flowered variety is *Thomas Hogg*, which has now for years figured as a market plant, while another of almost the same tint is of more recent introduction. This is *Stellata fimbriata*, whose sterile blooms are toothed at the edges. They are white, slightly tinged with pink. A distinct kind is *Stellata flore-pleno*, the sterile blossoms of which are composed of several comparatively narrow petals, arranged in quite a star-like manner. It is much less vigorous than the ordinary form of *H. Hortensia*, but is very pretty. The showy *H. paniculata grandiflora*, which is more of a shrub than the others, does not lend itself to the production of dwarf plants. H. P.

NEW AND RARE PLANTS.

ODONTOGLOSSUM CRISpum PUNCTATUM (ROSSLYN VARIETY).—This is a pretty flower; the sepals are white suffused with bright lilac, having two or three large brown spots at the base and several smaller ones sparingly dotted amongst them. The petals are much crested on the margin, the ground colour lighter than in the sepals, the basal half thickly covered through the centre with miniature purple spots. The lip is white shading to yellow on the disc, and in the centre there are numerous brown spots. It was exhibited at the Drill Hall on June 4, and received an award of merit from the Orchid committee. From the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill (gardener, Mr. F. W. Thurgood).

ODONTOGLOSSUM LOOCHRESTIENSE LORD MILNER.—This beautiful hybrid, having its origin from the intercrossing of *O. crispum* and *O. triumphans*, has the intermediate characteristics of the parent species. The sepals, creamy white, become suffused with yellow towards the margin and the tips at the apex, the centre area evenly marked with dark brown spots. The petals are similar to the sepals, but have a broader area of white and



FLOWER OF ODONTOGLOSSUM CRISPUM PITTIANUM.

the brown spottings are more prominent, the shield-shaped lip white suffused with yellow on the disc, and having a large chestnut-brown blotch in the centre. Exhibited by Thomas Baxter, Esq., Oakfield, Morecambe (gardener, Mr. R. Roberts), on June 4, at the Drill Hall. Award of merit.

CATTLEYA MOSSIE MRS. F. W. ASHTON.—This is a distinct variety of the *C. M. reineckiana* section. The sepals and petals are pure white, of fine form and substance, and the large open lip is white veined and suffused with rosy purple lines through the centre shading to yellow in the base of the throat. This is another addition to the many fine varieties that have appeared amongst Messrs. Stanley, Ashton and Co.'s importation, and was exhibited by them at the Royal Horticultural Society's meeting at the Drill Hall on June 4. Award of merit.

ODONTOGLOSSUM CRISPUM PITTIANUM.—This lovely *Odontoglossum* flowered for the first time last year in Mr. T. Rochford's nurseries at Broxbourne, in an importation of plants collected for him by Mr. J. Carder. Mr. H. T. Pitt, Rosslyn, Stamford Hill, who is well known among Orchid specialists as one of the most enthusiastic of amateur Orchid collectors, purchased the plant from Mr. Rochford, and it was shown by Mr. Pitt at the Drill Hall on May 8 of last year. Although past its best from being open so long, the Orchid committee recommended it a first-class certificate. It is generally admitted that *Odontoglossums* do not produce their best qualities when flowering for the first time. This contention was never more fully illustrated than in the case of the subject of this note, and when the plant flowered again this year, the improvement was so great that when it was exhibited on June 4 at the Drill Hall it was the subject of attraction amongst the many fine things exhibited at that meeting. At the Manchester and North of England Orchid Society's meeting it was even more admired, for the committee not only awarded it a first-class certificate but in addition the society's gold medal. The flowers as seen in the accompanying illustration are unusually large and fine in substance, the sepals are upwards of an inch wide, the ground colour white suffused with rose, which is reflected through from the exterior, the markings

upper petals. Indeed, it is a pair to speak, and of very distinct aspect. From Mr. H. B. May, Edmonton.

PELARGONIUM MRS. W. H. MARTIN.—Also of the Ivy section, the flowers being of a soft mauve shade, the trusses large and abundantly produced. The number of trusses were exceptional for a plant in a 5-inch pot. From Mr. H. B. May, Dyson's Lane, Edmonton.

CANNA JEAN TRISSOT.—A compact head of bloom of a rich deep crimson, the flowers well formed and solid-looking.

CANNA GROSSHERZOG ERNEST LUDWIG VON HESSON.—Here is a very large-flowered crimson *Canna* saddled with a terrible name. Such names are deplorable. The flower is a large expanding one, and of deep colour.

CANNA OSCAR DANNEKER.—A fair-sized flower of a chrome and orange shade, and more generally erect than is usual. This fine set of *Cannas* all came from Messrs. Cannell and Sons, Swanley.

CANNA ELIZABETH HOSS.—A fine spotted variety, the golden-yellow ground being freely covered with scarlet dots, and that uniformly. From Messrs. Cannell, Swanley.

LEWISIA TWEEDIEI.—The illustration we gave a week or so since, and to which at page 387 we now refer our readers, will give a better idea of the beauty and distinctness of this fine plant than mere words. The large ovate spatulate leaves are somewhat succulent, and from an ample tuft of this the yellow-buff rose-tinted flowers issue, large solitary flowers on stems 3 inches or more in height. Already a question has been asked as to its hardihood, and if this latter be confirmed we have a really delightful plant, and a first-class novelty. Even should the species require frame protection it will be well worth attention. The example was shown by Messrs. Barr and Sons, Covent Garden.

ROSA RUGOSA GERMANICA CONRAD FERDINAND MEYER.—This name is applied to an apparently good climbing Rose, which has resulted from the double crossing of *Gloire de Dijon*, *Duc de Rohan*, *Maréchal Neil*, and *Rosa rugosa*. In the plant as shown there is some semblance to the first and last we think, the former in the buds and full widely-expanded flowers, and in the latter by its

being of a distinct bright brownish purple. The petals, $1\frac{1}{2}$ inches broad, are much crested on the margin and similar in colour to the sepals. The lip white shading to yellow on the disc, the markings being of rich brownish purple. It is certainly the finest *Odontoglossum crispum* in its way, and a fit companion for the equally lovely *O. c. apiatum*, one of the gems of Baron Schröder's collection.—H. J. C.

FLORAL COMMITTEE.

All the following were given an award of merit, Royal Horticultural Society, June 4 last:—

PELARGONIUM LEOPARD.—A distinct Ivy-leaved *Pelargonium*, the flowers of a rose-lilac, and heavily blotched with crimson in the tinted flower, so to

densely spiny growths. Indeed, this would appear the only evident influence from *Rosa rugosa* at all, and the foliage may suggest influence from *Duc de Rohan*. The variety is very fragrant and, like *Gloire de Dijon*, flowers freely from the strong rods of last season's growth. Its early flowering, assuming the flowering rod to have been cut from the open, would also suggest influence from *Gloire de Dijon*. It was shown by Mr. Leopold de Rothschild, Gunnersbury House (gardener, Mr. J. Hudson).

ACER PICTUM (COLCHICUM) AUREUM.—A very pretty, golden-leaved form of the above well-known species. It is full of promise from its highly decorative character. Good examples were shown by Messrs. T. Cripps and Son, Tunbridge Wells.

PEONIA ARBOREA ELSIE PERRY.—All we can say of this fine variety is that it is one of the most handsome crimson-flowered tree *Pæonies* we have yet seen. From Mr. Amos Perry, Winchmore Hill.

MECONOPSIS HETEROPHYLLA.—A highly promising annual, with pretty flowers of a distinct red-orange tone and maroon-coloured centre. The distinctness of the species was welcomed by not a few, despite the fact of the plants having been grown in small pots, and therefore were somewhat thin and drawn. With more open-air culture this will prove a most welcome plant for the garden. The plants, exhibited by Mr. M. Prichard, Christchurch, Hants, had been raised from seeds sown but three or four months ago.

PAPAVER MRS. MARSH.—Probably the beginning of a new race of beautiful Poppies, from which the huge black blotch may be presently entirely eradicated. Indeed, in the present kind it is all but wiped out, only the traces remaining of what was huge and conspicuous a short time back. The predominant colour in the variety is vermillion, with a faint inclination to stripes and flakes of a light and deep salmon shade. The flower is more or less cupped, and the margin well goffered and somewhat undulating. This handsome kind came from the raiser, Mr. Amos Perry, Winchmore Hill.

OBITUARY.

THOMAS SOFTLY WARE.

WE are extremely sorry to learn of the death of Mr. Ware, late of the famous Hale Farm Nurseries, Tottenham, at the age of seventy-six years. He was at one time a familiar figure at horticultural exhibitions, a keen and successful grower of hardy flowers, and in many ways has done much towards making the culture of alpine, hardy Orchids, Lilies, and hardy flowers in general better understood. "Ware" is a household word in the world of garden flowers, and our late friend laid the foundation of the present business.

AN OLD GARDENER.

IN the Manchester newspapers appears a notice of the death of Mr. Fogg, of Urmston, at the ripe age of eighty-three. He was a gardener of the good old-fashioned type, but, having to send his produce to the Manchester markets, he fell into the usual and profitable practice of growing things for the sake of appearance. Some of his quaint sayings have appeared many years ago in *THE GARDEN*, one of which will no doubt be remembered by many old readers. He had a very large crop of Cucumbers, and called me in to admire them. I said, "Fogg, what do you grow such things as these for? They are not fit to eat." "Eat, mister," he replied, "we don't eat 'em; we send 'em to market. Bless you, mister, we don't grow 'em to eat." THOMAS FLETCHER.

SOCIETIES.

BRISTOL GARDENERS' ASSOCIATION.

THE summer session was opened at St. John's Parish Rooms on Thursday se'night; Mr. A. J. Hancock presiding over a moderate attendance. The minutes of the last meeting having been read and confirmed, the chairman introduced

the lecturer, Mr. H. R. Richards, of Horfield, whose paper was on "Indoor Fruit Culture"—and those members who were absent have much cause for regret—the subject being most ably dealt with in a very practical way. Claiming that the culture of indoor fruits was one of the most important of a gardener's training, ensuring as it does a full crop every year, notwithstanding the changeable climate of England, the lecturer took a few of the most popular fruits, giving useful hints. The choice of soils for the various trees was an important detail, the proper proportions of composts being carefully prepared according to the variety of tree, such as Vines, Peaches, Nectarines, Apricots, and Figs, recommending wood ashes as one of the most useful materials to the fruit grower. The Grape was the most important fruit crop. Peaches and Nectarines, like all stone fruits, delighted in an abundance of lime, which if not already present in the soil should be added in the form of lime rubbish or slacked lime. The lecturer maintained that large specimen trees can be safely planted if done just as their leaves are turning colour. Mr. Richards also went into details as to the culture of Figs, and much valuable information was given concerning this delicious fruit.

A good discussion followed, and a hearty vote of thanks was accorded Mr. Richards for his most able and enjoyable Paper.

Prizes for a brace of Cucumbers were awarded to the Lord Mayor, Mr. J. Colthurst Godwin (gardener, Mr. McCulloch), first; Mr. Spry, second; Mr. Edwards, third. For a dish of Strawberries: Mr. A. Weedes (gardener, Mr. Ayliffe), first; Mr. N. C. Dobson (gardener, Mr. Thoday), second; Mr. H. Nash (gardener, Mr. Barrow), third. Certificates of merit were awarded to Mr. W. Howell Davis (gardener Mr. Curtis) for *Odontoglossum Pescatorei*, Lady Cane (gardener Mr. Poole, F.R.H.S.) for *Nepenthes*, Mr. Edwards for a dish of Garaway's *Chemin Rouge* Tomatoes, and Captain Jenkins (gardener, Mr. Norton) for Cucumber Lord Roberts.

THE NATIONAL DAHLIA SOCIETY.

AN emergency meeting of the committee was held, by the kindness of the Horticultural Club, in the rooms of that body at the Windsor Hotel on Saturday last. Mr. E. Mawley presided, and there was a large attendance of members, some coming very long distances. The primary object of the gathering was to consider the society's position in relation to the Crystal Palace Company, which body has, in spite of repeated applications and promises, not yet paid to the Dahlia Society the sum of £50, which it was agreed should be given in respect to the society's show held last September. It was naturally felt that in addition to the great need to secure this promised sum for the purpose of paying prizes due from the show in question, there was also to be considered the question of a future home for the society's shows. After a long discussion it was agreed to instruct the secretary to invite the Palace Company to pay up the sum due within sixteen days, and failing payment then to place the matter in legal hands. The committee expressed its fullest desire to keep faith with the Crystal Palace Company, so far as their annual show is concerned, and hoped the company would act as honourably towards them. It was reported that the Wellingborough Horticultural Society had become affiliated to the National Society. Judges for the September show were then selected. A good deal of discussion arose as to the awarding of certificates to seedling Dahlias at the show, and it was finally agreed that this be done by the whole body of judges. It was also agreed that the arrangements for such awards be less publicly conducted than was the case last year.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last. The minutes of the last meeting were read and confirmed. Eight new members were elected. One lower scale member asked to be allowed to pay the higher scale, which was granted. Eight members are receiving sick pay. Messrs. H. M. Pollett and Co.'s estimate for printing 1,000 copies of the rules was accepted. The secretary produced the receipt for £55 0s. 8d. paid to the widow of the late Mr. Michael Davis, being the amount standing to his credit in the ledger. A letter of thanks from Mr. H. Saunders was read for 7s. per week granted him from the benevolent fund, and a receipt for £5, paid to Mr. Saunders from his deposit account, was produced. A grant of 10s. from the convalescent fund was made to Mr. Joseph Russell (No. 473). The treasurer reported that he had a balance in hand of £155 5s. 5d.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

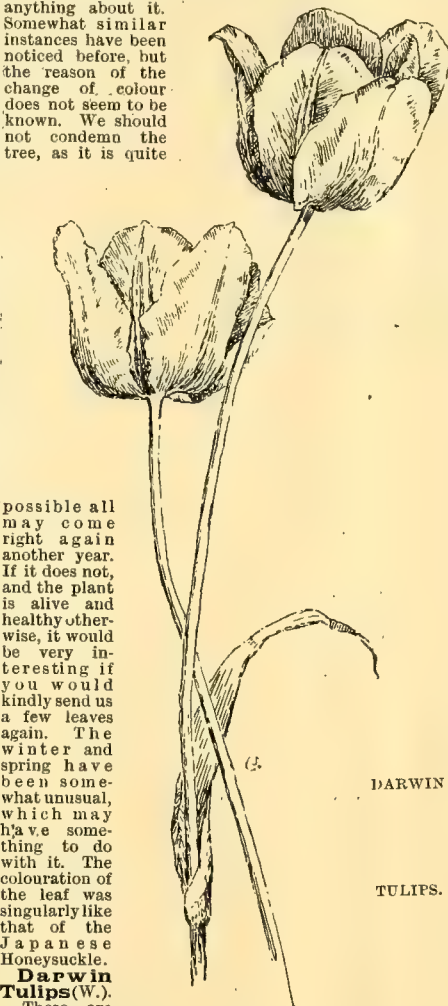
Questions and Answers.—The Editors intend to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITORS OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Names of plants.—*Widnapad*.—This is all we could make of the signature, and we presume the plants are for

name. The feathery shoot is that of the flowering Ash (*Fraxinus Ornus*); the other is a Maple, but please send a better specimen.—*H. R. W.*—1, *Erysimum prostratum*; 2, *Sedum album*.—*William Grant*.—*Luzula nivea*, a garden escape.—*Mrs. H.*—*Gaultheria Shallon*, native of North America.—*Freesia Rubra*.—The *Tritonia* you sent a short time ago is a form of *T. crocata*.

Repotting Orange and Lemon trees (E. E.).—If the little trees are in scantily supplied pots they might be now repotted, as if left for a year they may be starved. Do not prune them. Lemons are of quite a straggling growth, and, except when it is absolutely necessary to cut back to keep in bounds, they should not be pruned. According to size and age of plants bloom may be expected sooner or later; they may not bloom or fruit for three years. If the plants are grafted the blossom and fruit come sooner than from seedlings.

Rose Marie Van Houtte (J. F. B., Oxford).—We are afraid that we cannot give you any information as to the discoloration of the leaves of your Marie Van Houtte Rose. There is no sign of the leaf you sent being attacked either by insects or fungi. We sent the leaf to the last meeting of the scientific committee of the Royal Horticultural Society, but no one could tell us anything about it. Somewhat similar instances have been noticed before, but the reason of the change of colour does not seem to be known. We should not condemn the tree, as it is quite



possible all may come right again another year. If it does not, and the plant is alive and healthy otherwise, it would be very interesting if you would kindly send us a few leaves again. The winter and spring have been somewhat unusual, which may have something to do with it. The colouration of the leaf was singularly like that of the Japanese Honeysuckle.

Darwin Tulips (W.).

—These are very late-flowering Tulips, and the accompanying illustration is from a flower sent by Messrs. Barr and Son. These late Dutch Tulips are rich and varied in colour, and very effective in the garden.

Peach leaves blistered (H. W.).—The Peach leaves sent are badly blistered, and, as you think, there are traces of mildew. We wish you had sent us a fruit. You can soon tell if it is mildew, as the fruits will be spotted as if scorched. You do not tell us the variety. You note it bore heavy crops last season, and that would not cause the injury this year, but the cold east winds we had all through the early part of May would be answerable for the injury. The nights were very cold, the foliage tender, and your trees having a south-east aspect would suffer. Another point often overlooked is that a stone wall is much colder than one of brick, and some varieties of Peaches—the early kinds especially—often blister on a stone wall. With a general change in the weather your trees will soon recover, and you will do well to hand pick badly attacked leaves. If mildew spreads syringe with a sulphur solution.

Mildew upon Roses planted out in greenhouse (BROR FAHRENS).—We have never found sulphur of much benefit in destroying mildew under glass, unless applied to the hot-water pipes so that the fumes arise, and this to be effective should be applied quite early; in fact, as soon as new

growth commences. One of the best remedies is a good syringing of soft soap water, at the rate of half an ounce of soft soap to one gallon of soft water. The water should be heated to dissolve the soft soap, and applied when cool. After it has remained on the foliage for two or three hours a syringing of clear soft water may be given, which will partly relieve the foliage of the unsightly appearance of the soft soap sediment. As soon as mildew is again detected on the younger foliage syringe at once as before. If this is repeated when necessary, you will soon keep the troublesome fungus in check. Fluctuations in temperature, also too much or too little water, and strong doses of liquid manure all tend to increase the disease. Where Roses are afforded regular treatment from the commencement, and draughts and cold winds prevented from entering the structure, you should experience very little trouble from this cause.

Hollyhock disease (W. M. S.).—It is but too evident that your Hollyhock plants are suffering from a bad attack of Hollyhock fungus. This fungus is very old, and long before it attacked our Hollyhocks in the way it now does, was found on the common Mallow, an allied and ordinary host plant for the pest. But it is to be regretted such is the nature of the fungus that no real remedy seems to be found. The disease invariably attacks the leaves nearest the ground, first covering them with buff-coloured wart-like excrescences, which literally eat into the cuticle, and cannot well be destroyed except by gathering the leaves and burning them. The fungus also attacks and grows up the stems. Gather the worst leaves and paint the stems with a paste-like coating of soft soap, lime, and sulphate of copper dissolved in water, also paint the under sides of the leaves. Syringe the plants freely, and water the roots well also, as drought seems to be a promoter of the fungus.

Setting Melon flowers (ALPINE).—It does not matter whether you want Melons for eating only or to produce seed for sowing, you must properly set the flowers on the tiny fruits by introducing pollen from the fruitless or male flowers into the fertile organs of those on the fruits. If this setting or fertilising be not done then the fruits soon turn yellow and die off. With Cucumbers it is not at all needful or desirable to set the fruit flowers, as the fruits are best for eating if seedless. In the case of having two or three varieties of Melons flowering at the same time, in a house or frame, there is no probability that there will be any intercrossing, except insects get inside; but even there will be no danger then if the male blooms be kept pinched out as fast as they open. Any good named Melon, as a rule, continues to reproduce itself from seed true when the male flowers of its own production are used as parents, but if flowers from another variety be thus used the product may be very varied and diverse.

Shirley Poppies (FOSTER).—Not every one, it would seem, has heard of the esteemed clerical secretary of the Royal Horticultural Society, who is vicar of Shirley, near Croydon, or even of that particular Shirley, as there are several in the kingdom; but that gentleman is the raiser of these beautiful Poppies, and named them after his home. They are, after all, not the product of any new or even imported species, or of any special cross. There was seen in Mr. Wilks' garden, in a corner abutting on to a field where the wild scarlet Poppy grew, a plant that was carrying one flower which had in it a thin white edging to the petals. The seed-pod of this was saved, and later sown. The following year, out of many plants, just a few had similarly marked petals. Each year after the colouration varied and the flowers enlarged, until ultimately the present beautiful race of Shirley Poppies resulted. It is quite possible, were other British plants observed, that some great advances might be evolved from them also.

Peach leaf fungus (J. G.).—Your Peach foliage is evidently suffering from a bad attack of the Peach leaf blister, although in your case, possibly due to a moister climate, the leaves seem to be more affected by mildew than by blister. The disease is rapidly generated on young leafage by cold winds, draughts, frosts, or a low temperature generally, and it is very commonly aggravated when the roots have gone deep, and away from sweet, aerated, and well-fertile soil, as then the wood growth is less matured, and the leafage in consequence more liable to disease. Your first effort should be directed to gathering and burning all the worst affected leaves, then make a Bordeaux mixture solution in the following way:—Get two pounds of sulphate of copper (bluestone) and dissolve that in a wood tub in ten gallons of water, scald with a gallon of boiling water two pounds of fresh lime and two pounds of treacle, add this and ten other gallons of water to the copper solution, and stir it well, let it settle, and then it is ready for use. You want for this purpose an "Abol" or other gently spraying syringe, as the effect must be to cause the mixture to settle like dew on the trees all over. At an interval of three weeks another application of the solution should be given. It will be well if a mixture be made up and applied to the trees before the buds open next March. We also advise if the trees be not too old that next October they be unnailed, lifted very carefully, and replanted, as that may prove very helpful in checking the disease.

ERRATUM.—In Mr. Coomber's note on "Blind Strawberries," page 410, line 7 from the bottom, for "deciduous" read "dioecious."

JOURNALS, &C., RECEIVED.

The Zoologist. L'Argus des Reves. Report of Experiments on Farm Crops. Bulletin de la Société Nationale d'Acclimatation de France. Report of the School of Horticulture, Victoria. Kew Bulletin of Miscellaneous Information. Agricultural Returns for Great Britain.

"* We hope nurserymen will send notes of importance and any news likely to interest horticulturists. Their assistance will be greatly valued."

THE GARDEN.

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[JUNE 22, 1901.

EARLY ROSES.

IT is a glad day when the first Rose opens and we know that the Rose season has begun. Just which kind it may be will depend on the width of range of Roses grown in any one garden, but where there is a fairly good collection it is likely to be Fortune's Yellow, with its lovely loose coppery blooms, its dainty leaves, and its cruel prickles.

One of the Briars will probably be the next. The herald of our Scotch Briars, the garden descendants of the native Burnet Rose (*R. spinosissima*), will be its representative from Russian Central Asia, *R. altaica*, much like the Burnet Rose, but that the leaves are of a paler green, both flowers and leaves a trifle larger, and that it blooms about a week earlier.

With the waning of the Briar flowers comes the first full blooming time of that delightful free-growing Rose, Mme. Alfred Carrière, classed as a Hybrid Noisette, with its large pale Tea-like foliage, and wide loose flowers of a delicate warm white—a Rose for many purposes, but best, perhaps, trained through some rather open small tree or bushy brake, as its growth inclines to be leggy below. Still it is lovely on any old building or fence or as a Rose hedge trained down, so long as there is something to cover the bareness of its lower spaces.

Of other well-known Roses the Boursaults, derived from *Rosa alpina*, will be the next to bloom, the most beautiful being the pink Morlettii and the much better Blush Boursault. Roses of this family may be known by the rather long stems with reddish bark without prickles. Blush Boursault has a beauty and tenderness of colouring that is hardly matched by any other Rose. The outer petals are of a rosy white of extreme purity, and the clear rosy tinting of the middle of the flower gives the same impression of remarkable purity. In strong or chalky soils this is a lovely arbour Rose, in its whole appearance and character closely in sympathy with the modest cottage dwelling, while from its daintiness it is equally fitted to accompany the most refined architecture.

By this time there are many Roses in bloom—the grand and rampant Reine Olga de Wurtemberg, lovely when half opened as a cut flower; the earlier of the Penzance Sweet Briar hybrids; the garden varieties of *Rosa alba*; and the rugosas, now rapidly advancing as parents of new hybrids and crosses.

Then among the bush Roses there are already many Teas in bloom—the always faithful Mme. Lambard, and the deeper coloured Papa Gontier, the free-blooming Hybrid Tea Viscountess Folkestone, and the handsome Captain Christy, also a Hybrid Tea, one of the best of bush Roses for rather poor soils, where the satisfactory cultivation of Hybrid Perpetuals is almost an impossibility.

EARLY-FLOWERING LILIES.

Two of the five sections into which botanists divide the genus *Lilium* contain nearly all the early-flowering kinds, viz., the Isolirion group, characterised by erect flowers, more or less cup-shaped, and the Martagon or Turk's-cap class, whose flowers all reflex in a regular yet graceful manner. A notable feature of the Martagon section is the arrangement of the leaves, which in the common Martagon, the Japanese *L. Hansoni*, and several North American species, are borne in regular whorls around the stem, while in many of the others these whorls are broken up and the leaves scattered. Well-known examples of this class are *L. chalcedonicum*, *L. szovitsianum*, and *L. pyrenaicum*. All of the above cannot, however, be regarded as early flowering; indeed, one of this group, *L. superbum*, is among the latest. On an average the first Lily to bloom in the open ground is *L. pyrenaicum*, which is one of the least showy members of the genus, though it is by no means devoid of interest and beauty. It is essentially a border Lily, succeeding as it does in an open loam, while the heavy, disagreeable odour of its blossoms is against its use in confined places. As soon as it appears above ground the sturdy stem, very thickly covered with narrow leaves, is particularly noticeable. The blossoms, which are borne in a many-flowered raceme, are small, Turk's-cap like, and in colour greenish yellow, while the pollen is red. One of the finest of all the early Lilies is well shown in THE GARDEN, page 407. This is *L. szovitsianum*, known also as *L. colchicum* and *L. monadelphum*, which in the Lily reports published last year in THE GARDEN received a favourable notice in nearly every case. It needs a good loamy soil, and two or three years to establish itself after planting. Again, few Lilies are so readily raised from seed as this. The general appearance of this Lily is so well shown in the illustration above referred to that nothing further on this point need be said, except that there is a considerable amount of individual difference in the colour of the blossoms, some being of a much clearer yellow than others, while the spotting also varies a good deal. *L. carniolicum*, known sometimes as the red *pyrenaicum*, *L. pomponium verum*, whose bright sealing-wax-like blossoms vie with those of *L. chalcedonicum* (which are produced later), and the pretty richly tinted though

delicate *L. tenuifolium*, are all early-flowering Lilies belonging to the Martagon group, while the species of that name represented by several varieties and hybrid forms is not very far behind some of them. Much the same may be said, too, of the allied *L. Hansoni*.

The greatest display of early-flowering Lilies is, however, furnished by two members of the Isolirion group, viz., *L. elegans* or *thunbergianum* and *L. davuricum* or *umbellatum*. Both include many distinct varieties; indeed, *L. elegans* must be regarded as the most variable species of the entire genus, as the several forms differ not only in colour, but in height, season of blooming, and other particulars. The major portion, however, are all low-growing Lilies, some exceedingly so. For instance, Prince of Orange and *alutaceum* bear their comparatively large blossoms on stems often little more than 6 inches high. While the bulbs of a few varieties of *L. elegans* are somewhat costly, the majority are very cheap, do well in ordinary sandy loam, and flower satisfactorily the first season after planting. These remarks apply with equal force to *L. davuricum* or *umbellatum*, which is, however, in all its forms a larger grower than *L. elegans*, without the wide range in colour of that kind. Large quantities of *L. umbellatum* are sent to this country from Holland, and, apart from their value as border Lilies, they are by many grown in pots and employed for various decorative purposes. By growing these bulbs in a pot effective specimens result, and in this way they make a good display. One drawback, however, is that should the weather be hot the bright hues of the freshly-expanded blossoms quickly change to a kind of brown paper tint. A near relative of *L. umbellatum* but a little later in flowering is *L. bulbiferum*, easily distinguished from the rest by the presence of small bulbils in the axils of the leaves. A well-known member of the Isolirion group is *L. croceum*, than which there is no finer garden Lily, but at the same time it belongs to the mid-season rather than the early class, and much the same may be said of the Madonna Lily (*L. candidum*). Some bulbs of the Japanese *L. rubellum* that flowered last year in pots plunged out of doors in Cocoonut refuse were similarly treated this year, with the result that they started quickly into growth, and the first flowers opened on June 3, just one day before those of *L. umbellatum*, which had been grown under similar conditions. If this may always be expected it would be certainly entitled to rank among the earliest, that is, if it could be established in this country, for freshly imported bulbs often stand some time before they start. T.

THE NATIONAL ROSE SOCIETY AND ITS SUMMER SHOW.

ALL interested in the National Rose Society will support the Dean of Rochester, the com-

mittee, and those two devoted secretaries—the Rev. H. D'ombain and Mr. Edward Mawley—in a new and important departure, namely, that of transferring the great exhibition held for many years past at the Crystal Palace to the historic and leafy gardens of the Inner Temple, upon the Thames Embankment. The exhibition takes place on Thursday, July 4, and we hope a sunny day and large attendance will reward the special efforts which are being made to make this exhibition one of the most beautiful and interesting that has taken place in the history of the society. A Rose show of the present day is quite different to the somewhat monotonous displays that were held before the garden Roses, so-called, were shown in the free, bold masses that make the exhibitions of our own time so delightful and instructive. This great show is a tournament of Roses; it is the meeting-place of the great growers in the British Isles, amateur and trade, and the beginner in Rose growing, as well as those who have grown old in the service of the queenly flower, can learn something from these annual displays of the wonderful perfection to which Rose culture has been brought in Britain and the great and increasing variety of new hybrids and varieties, many of which will be the popular Roses in the gardens of the future.

EDITORS' TABLE.

FRENCH PELARGONIUM FLOWERS FROM LEWISHAM.

We have received a delightful collection of cut flowers of French Pelargoniums from Mr. H. J. Jones, Ryecroft Nursery, Lewisham, comprising all the finest varieties in cultivation. We hope that this remarkably bright-flowered class of plants will again be sought after, but for some years past they have not been much grown. Among the most beautiful kinds were Snowflake, white, with a few lines and a blotch of purple-crimson on the upper petals; Empress of India, clear rose, dark blotch; Empress of Russia, almost black, so intense is the purple colouring, with white margin to the florets; Eucharis, a lovely flower of purest white; Lambert Gem, rich lilac and deep crimson blotch; Duchess of Fife, a glorious flower with bold rounded petals, upper ones warm purple passing to light red, and then lighter margin, and many others.

ZONAL AND OTHER PELARGONIUMS AND BEGONIAS.

One double zonal Pelargonium was beautiful, the flowers produced in a large truss and of a very soft rose colouring, and many other very fine kinds were sent, with flowers also of double and single tuberous Begonias, showing how rich in colouring is Mr. Jones's strain. Some notes upon the flowers in this nursery appear elsewhere.

Messrs. W. J. Godfrey send from the Nurseries, Exmouth,

A BEAUTIFUL SERIES OF ORIENTAL POPPIES, showing, besides a good set of scarlets and orange-scarlets, one named Salmon, of very beautiful colouring, a tender salmon colour shading to salmon-vermilion. This is the most beautiful flower in the group, but there is also a remarkable break of colouring in pinks, purples, pink-purples, and dark reds approaching deep purple. These purples are all free from the magenta taint, taking their colour, which is always low in tone, rather from the red-grey tinting of the anthers in some of the orientales. The colour, though never bright, is telling, and will specially commend itself to the more cultured colour eye.

KELWAY'S PEONIES.

A beautiful gathering of these popular early summer flowers has reached us from Messrs. Kelway and Son, Langport, Somerset. The flowers are equally as varied as they are beautiful, and comprise many good things. Sir Angus

Holden, crimson, tinged with a bluish shade; Lady Romilly, double, deep blush-pink; Blanche Fitzmaurice, white; General Buller, very fine deep rose tinged with blue, scented almost like a Rose; Doris, single, blush-rose; Portia, double white, very good; Dolabra, lilac-rose, double; Agnes Mary Kelway, a beautiful single flower of a soft rose colour; Christine Shand, pinkish white, double; Limosel, double, soft lilac-rose; and Alexandra Macduff, a large double white, are a few of the most noteworthy.

My mother sends a box of

BOURSALT MORLETTII ROSE.

She was surprised to see that one of your correspondents in THE GARDEN last week spoke of the Boursaults as an uninteresting class of Roses. The rest of the family, perhaps, are not so attractive, but here, in a by no means small collection of garden Roses, we consider B. Morlettii one of the sweetest scented, earliest to bloom, and most beautiful Roses we have.—E. M., Alderson, near Worksop, Notts.

[A still more beautiful Rose of the Boursaults is Blush Boursault. Our correspondent no doubt had in mind the red-flowered ones, which have now been superseded by better things.—Eps.]

Mr. H. T. Martin, Stoneleigh Abbey Gardens, Kenilworth, sends flowers of

DICTAMNUS FRAXINELLA,

with the following note: "This is one of the most showy subjects now in flower in our borders, and, beautiful as it is dotted here and there in the mixed border, it has occurred to me that groups or masses of it would make lovely pictures in certain parts of the flower garden. The plant appears to delight in a light, dry soil and situation such as ours is. At the time of writing (June 15) we have not had the needed rains which appear to have fallen in some parts of the country, consequently many subjects growing in the borders are suffering considerably, for it is not possible to water this part of the garden. The Dictamnus continues to grow and flower luxuriantly, thus making it a good plant for shallow soils in times of drought. There appears to be three or four varieties of the type, though the only one I possess bears spikes of rosy-bued flowers. To lovers of sweet-scented flowers the Dictamnus will prove a welcome addition, for when rubbed or cut the plant emits an odour similar to the Lemon-scented Verbena. Increase is readily effected by division of the root-stocks in winter or by seed sown as soon as ripe."

CYPRIPEDIUM SPECTABILE.

Mr. T. B. Field, Achwellthorpe Hall Gardens, Norwich, sends flowers of this beautiful Lady's Slipper, with this note: "I know of no hardy plant to surpass this in boldness and delicate colouring. It is as hardy as the common Rhubarb, and strong and deep rooting when in a congenial soil and position. There are few gardens that do not afford some shady nook where a hole might be dug and filled with rich peat or spongy loam mixed with plenty of decayed vegetable matter. In such a position it would luxuriate, and also in any shady place where a deep and somewhat unctuous soil exists."

AUTUMN-SOWN SWEET PEAS.

We regret that a portion of a letter from Mrs. Thorneycroft accompanying some fine Sweet Peas and published in THE GARDEN, June 15 (p. 425), was incorrectly transcribed. The portion in question should have read "They did not bloom that year; but at Easter time this year the Peas looked very flourishing and the fine blooms were picked on May 12."

ROSA SINICA ANEMONE.

Mr. Mitchell, Heathfield, Rush Green, Hertford, sends flowers of this beautiful Rose, one of the most precious of all single varieties. The flowers are very large, soft rose in colour, with a bunch

of yellow stamens, and the whole set off by the shining green foliage. Few fairer flowers have adorned our table than this, and we hope this note will draw attention to its importance for the garden.

A NEW TREE CARNATION MRS. ELLIOTT.

We have received from Messrs. H. and J. Elliott, Courtbushes Nurseries, Hurstpierpoint, Sussex, flowers of a charming Carnation, sweetly scented, and of unusual colouring, a soft lemon and pink, difficult to describe, but very pretty. The calyx, too, does not split.

PRIMULA OBCONICA GRANDIFLORA AND MULE PINKS.

Mr. Crook, of Forde Abbey Gardens, Chard, Somerset, sends flowers of a good form of P. obconica from plants out of doors, and a richly coloured Mule Pink, with the following note: "A bunch of Primula obconica grandiflora; flowers from plants that have stood out in the open border under an old Laburnum tree in our garden the whole of the past winter, having been planted out in May of last year. It has never had the slightest protection. This shows the plant may have many uses. I am also sending a bunch of blooms of a Mule Pink. You will see that the stems are very long, and this makes it valuable for cutting or for the border. The plant grows vigorously. It is to be regretted that the Mule Pinks are not more known and grown. This, Napoleon III., and a few others are charming."

NEW AND RARE PLANTS.

STRAWBERRY THE LAXTON.—One of the prior claims to notoriety of this Strawberry is that it is claimed to be an improvement upon Royal Sovereign. It is a cross between this variety and Sir Joseph Paxton. Partaking, so far as appearance is concerned, more after the latter parent, it is more conical, and of a much more pleasing and brighter colour than Royal Sovereign. It is said to be of superior flavour to it, and also to travel well when packed. Equal earliness with Royal Sovereign is also claimed for it. It is evidently also a free cropper, and with such good credentials it should not be long in finding its way wherever Royal Sovereign is grown. Exhibited by Messrs. Laxton Bros., Bedford. First-class certificate.

SOPHRO-CATLEYA GEORGE HARDY (Tyntesfield variety).—This is a charming little flower; the base of the lip is a rich rose colour, becoming lighter towards the column; the sepals and petals have a buff ground colour, streaked with rosy crimson and spotted with chocolate-red. The whole plant is not more than 8 inches high, and the flower itself measures rather more than 1 inch across. Exhibited, R.H.S., by Fred Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gardener, Mr. Thomas Stafford). Award of merit.

THE KITCHEN GARDEN

CABBAGES AND WHITE BUTTERFLIES.

EVERY grower of vegetables of the Cabbage tribe will remember the devastation spread last season by the hordes of hungry caterpillars that preyed on the Cabbage and defoliated the Brussels Sprouts. This is a sure sign that we shall have the same trouble again before the season is far spent, as I never remember seeing so many white butterflies flitting about the vegetable garden in May. The hot sunshine experienced during the month and the absence of rain have been the means of bringing them out early, and they may be counted by the hundred. We all know the inevitable result of this, the close picking that will be necessary by and by if our beds of greens are to be anything but a mass of riddled leaves. We must face the difficulty,

but if in the meantime there was an efficient means of dealing with the author of the caterpillar's being, how much trouble would be saved.

G. H. H.

DRY WEATHER AND THE HOE.

FROM every district we hear the same complaint—want of rain. It is true that some localities have been more favoured than others in the way of showers, but for the last six weeks we have looked in vain for a steady downpour. And amongst the implements we use for counteracting the effects of the drought none is equal to the common flat hoe. By constantly stirring the surface soil between fruit bushes and growing crops the evil effects of the long drought are lessened, moisture is conserved, and baking of the surface prevented. No one knows the value of hoeing better than the fruit grower who spends money in the operation when the destruction of weeds is not the main object. He would not do this unless there were benefits accruing from it for the welfare of the crop. H.

THE FRUIT GARDEN.

STRAWBERRIES AND THE DROUGHT.

IN the southern parts of the kingdom the want of genial rains will, I fear, greatly spoil the Strawberry crop, if the plants are in dry or light soil. Of course, assistance can be given by copious waterings, but in many gardens both water and labour to apply the same are not always available. The plants in our own case never looked more promising than they did just at the time the flower trusses were forming, and there is such an abundance of bloom and fruits set that it would well repay cultivators to thin the trusses should the heat and drought continue. We are less fortunate than our northern growers, as on the Scottish border 2 inches of rain fell during the last week in May in two days, and this would build up the crop during the swelling of the fruit. In the Thames Valley the soil is so much drained that, if at all light, moisture is so soon spent; it needs rain little and often to get the best results. An old gardener told me the other day that for four months in the year, May to August, we ought to have rain every day. I fear my readers will think I am a grumbler, but certainly dry seasons are very trying, and the past few summers have been very dry, the drought this season setting in much earlier than usual.

Such weather will show the advantage of mulching Strawberry quarters earlier than is often done, as by mulching the surface soil is not dried, and any moisture given is longer retained. In many gardens liquid manure can be given; this after the fruit is set will greatly support the plants. I have noticed that old plants are the first to feel the effects of drought, and that is readily explained. The plants have more crowns and there is a greater demand on the roots; at the same time, having been a longer time in one position, the soil is more exhausted than in the case of younger plants in more recently manured or prepared soil. In light soils the old system of incorporating heavy clay materials in the soil before making a new Strawberry bed had much to recommend it, but in these days it is less practised than formerly, but, again, we do not now allow the plants to remain so many years in the same place. Even with recent culture an addition of heavy soil would greatly sustain plants in such seasons, but here, again, is a difficulty; the cost of cartage (soil also in some cases) must be considered.

It may be asked what remedy do you propose, and mine is this, to grow Strawberries more like annuals, at least certain kinds in gardens where the land is poor and the soil light, as then the land can be given better cultivation, be dug more frequently, and the roots get more nourishment. In many gardens one often sees a patchy piece or quarter of plants, these revealing losses from

various causes, one of the worst being wireworms. On such land I would certainly not grow Strawberries more than one season. We find we get much better returns by annual planting of certain varieties, the strong growers especially, such as Royal Sovereign, President, and others. Some of the Pine family and the British Queen are better the second year than the first if the land is well tilled.

I am aware annual planting means labour. On the other hand, it is labour that can be spared and is cheaper in the end than having plants over a much larger area and having a poorer crop. Another important point is that there must be good plants or runners and planted early in addition, but regularly carried out it answers thoroughly. It is surprising what a strong plant may be had by early planting, but to do this it is not advisable to take runners from plants that are fruiting. A few rows of plants are annually planted for the purpose, and if grown thus very fine fruits are produced. Of course it would be useless to plant in October and expect a crop, but I have planted poor runners in March after being wintered in rows, removed the flower trusses, and got splendid results the next year. My contention is that young plants are more reliable than old ones. By this mode of culture anyone can grow Strawberries in a poor soil; the plant must have food and good culture, and by planting oftener so much space need not be given between. There is no loss of space, and the land will be in better condition for other crops, as though heavily manured for the Strawberries, after that crop is cleared the quarters will be in splendid condition for green crops such as Kales or late Broccoli, and digging will not be needed for the last-named crop.

G. W.

NOTES OF THE WEEK.

Roses and "The Garden."—Our issue of July 13 will be devoted especially to the Rose. Many illustrations will be given showing beautiful ways of planting, uses of the newer and much talked of hybrids, and phases of culture which, judging from the letters of enquiry we have recently received, are interesting to those who wish for something better than the old "rosery" of iron stakes and wonderful trellising. Rose growing in England has undergone a much-needed change, and we have endeavoured, and shall do so in the future, to help our readers in making their gardens more beautiful by the right use of the most precious flower that can be planted in our pleasure grounds and even our woodlands. Special articles will be contributed by leading rosarians, and a full report will be given of the great exhibition of the National Rose Society in the Inner Temple Gardens.

National Amateur Gardeners' Association.—The annual conversazione of this flourishing association will take place at Winchester House, Old Broad Street, London, on Tuesday, July 2. The tickets are 1s. each, and may be obtained from Mr. F. Finch, the hon. general secretary, 117, Embleton Road, Lewisham, S.E.

National Chrysanthemum Society.—The annual picnic and outing will, by the kind permission of Alfred Tate, Esq., take the form of a visit to Downside, Leatherhead, when the gardens and grounds will be open to inspection. The date fixed for the picnic is Monday, July 8, in order to see the Rose garden at its best, and the cost, inclusive of railway fare, conveyance to and from Downside, with use of the conveyances during the day, dinner and tea, will be 9s. 6d. Ladies are specially invited. The company will be conveyed to Leatherhead Station by the London, Brighton, and South Coast Railway, from Victoria, London Bridge, and Addison Road. Dinner will be provided at the Swan Hotel, Leatherhead, and tea on the grounds at Downside. Members and friends joining the party at Leatherhead, but not using railway tickets, will be charged 7s. 6d. The secretary, Mr. R. Dean, Ranelagh Road, Ealing, W., must know by Monday, July 1, how

many tickets are required, so that the necessary railway and other arrangements may be made. It is particularly requested that those applying for railway tickets will say whether they will travel from London Bridge, Victoria, or Addison Road, in order that adequate railway accommodation may be provided. Parties wishing to sit together at dinner must give the secretary notice to that effect.

Carpenteria californica.—I think that *Carpenteria californica* is harder than your correspondent "W. D." states, at least it certainly is so here (in Oxfordshire). I have a plant, some 7 feet high, which has been about fifteen years against a south wall without the slightest protection, during which time it has several times stood over 20° of frost. It is a mass of flowers every year, which mingle well with the flowers of a scarlet-flowered Pomegranate next to it—a plant 11 feet high. Writing of this Pomegranate, some one wrote to THE GARDEN three or four years ago to say that his plant had some three or four fruits on it. Mine had fifteen or twenty. I forget the number.—J. B., *Henley-on-Thames*.

Double-flowering Currant.—The flowering Currant (*Ribes sanguineum*) is represented in our gardens by numerous varieties, that at the head of this note (*R. sanguineum flore-plena*) being remarkable for two distinctive features, viz., its double blossoms and the fact that they are later in expanding than any of the others. At a little distance the duplex character of its flowers cannot be detected, though close inspection reveals this. Serving as it does to prolong the flowering season of these beautiful Currants, this double blossomed form is worthy of more attention than has hitherto been bestowed upon it. Like all its relatives it will succeed under anything approaching favourable conditions, and can be readily propagated from cuttings.—T.

Asystasia bella.—Introduced from Natal in 1869 this shrub, then known by the generic name of Mackaya, was for some time regarded as difficult to flower in a satisfactory manner, but of late we do not hear any complaints on that score. A successful method of treatment is to encourage the plants to grow freely during the spring and early part of the summer, after which the growth must be well ripened by exposure to the sun and a limited water supply as the winter approaches. At that season they may be kept in the greenhouse, then, with a little additional heat in the spring, they will, about June, produce a quantity of their delightful blossoms. These flowers, which are borne in racemes of a dozen or so, are somewhat bell-shaped, nearly 2 inches across, and of a deep mauve beautifully veined with purple. Apart from its ornamental qualities it is very distinct from all other greenhouse plants in bloom. This *Asystasia* belongs to the natural order Acanthaceæ, most members of which grow freely with ordinary treatment, and this is no exception to the rule, as cuttings strike readily and soon form effective specimens. A second species (*A. scandens*), from Sierra Leone, has been long grown in gardens as *Henfeya scandens*. This is a pretty climbing plant that needs stove temperature for its well doing.—T.

Aquilegia spectabilis.—This pretty *Aquilegia* was sent out by Herr Max Leichtlin last year, and is now in bloom here. On looking up the "Index Kewensis" I find that *A. spectabilis* is referred to as *A. sibirica*, but I hardly think that the plant sent out from Baden-Baden is the same as that species. Of course, the *Aquilegias* are troublesome to separate, and it would require some courage to dogmatise upon the point. Whatever its name, this *Columbine* is very pleasing with its blue and white flowers. I had forgotten that I had it until when examining the *Aquilegias* in my garden recently I was struck with its beauty. It looks as if it would be a long liver, which is more than can be said for many of the prettiest species and forms. By the way, *A. baicalensis*, sent out from Baden-Baden the previous year, and which bloomed last season, has not flowered this, although the plants look strong and healthy.—S. ARNOTT, *Carsesthorpe, by Donfries, N.B.*

Single white Peony Cambridge.—As regards the Cambridge Peony I have grown

both *Whitleyi* single and *Emodi* for some years, and though their flowers may be similar to a botanist their growth is quite different. *Emodi*, some weeks the earliest, is now over, and *Whitleyi* only just out. The flowers of *Emodi* are only about 5 inches, whereas *Whitleyi* is nearly 7 inches across. The great difference is that *Emodi* runs at the root in all directions and covers much ground, though several plants have been removed to other places, whereas *Whitleyi* has only grown stronger on the one stem. *Emodi* seeds freely, but I have never succeeded in raising any.—J. R. D., *Reigate*.

Tufted Pansy *Pensee d'Or*.—Small pieces in my garden of this Pansy are typical of what these plants should be. Dr. Stuart, of Chirnside, N.B., has given us a perfect gem, the plant being excellent for bedding. The flowers, which are of medium size, are developed on a splendid length of footstalk, this latter carrying them well above the foliage, so that all the blossoms are seen. Of oval form, rayless, richly scented, and of a rich orange-yellow colour, it is easy to understand the charm of the dainty blossoms. The plant is dwarf, and quickly develops into a good tuft.—D. B. C.

***Robinia neo-mexicana*.**—This little-known species of *Robinia* has flowered remarkably well this season. Its nearest ally is the False Acacia (*Robinia Pseudacacia*), but it differs in many well-marked features from that well-known tree. The principal points of difference are the glaucous green of its prettily divided leaves and the bright rose tint of its blossoms, which in this respect are considerably deeper than in any form of *R. Pseudacacia*. Another distinct feature is that the flower stalks and seed pods are hairy, whereas in the older kind they are smooth. *R. neo-mexicana* is said to have been first discovered in 1851 by Dr. George Thurber, who was attached to the Mexican Boundary Survey Commission. It was not, however, brought into cultivation till 1882, when it was represented in the Arnold Arboretum. In 1891 it flowered for the first time in Europe in the arboretum of Dr. Dieck at Zoeschin in Germany, and has since that time become generally distributed where collection of trees and shrubs are grown. In the summer of 1895 it received an award of merit from the Royal Horticultural Society, a distinction well deserved. *R. neo-mexicana* is, as implied by its specific name, a native of New Mexico, but it also occurs in Colorado and Arizona, districts widely separated from the Eastern States, where *R. Pseudacacia* grows wild.—H. P.

***Burchellia capensis*.**—Owing to the war in South Africa the plants from that region have of late attracted more than their usual share of attention. No such stimulus should, however, be needed in the case of this *Burchellia*, as its ornamental qualities are of such a high order that one is apt to feel surprised that it is not more generally grown. It forms a freely branched shrub, clothed with ovate, oppositely arranged leaves, about 4 inches long, and of a rich green tint. The flowers, which are borne in clusters on the points of last year's shoots, are tubular in shape, a little over 1 inch long, and of a deep orange-scarlet colour, which shows up very effectively from the rich green background. The flowering season extends over several weeks, and some plants of it are just now at their best. This *Burchellia* is not at all a difficult subject to strike from cuttings of the half-ripened shoots, and the plant succeeds perfectly in a warm greenhouse, potted in a mixture of two-thirds loam to one of peat, with a liberal sprinkling of sand. It belongs to the order Rubiaceae, hence it is a near relative of the *Bouvardias*, *Ixoras*, *Gardenias*, *Manettias*, and other good garden plants. From the hardness of its wood this *Burchellia* is in Cape Colony known as the Buffalo-horn.—H. P.

Rose *Jersey Beauty* (Hybrid *wichuriana*).—I really believe this charming Rose will be much grown for its foliage alone, apart from its delightful single creamy white flowers. A single plant shows 100 to 200 new growths, each a bright ruby red, like a Tea Rose, and the leaves as shiny and glistening as though

varnished. When we remember that the majority of these growths will yield a beautiful canary yellow bud or buds, it is little wonder that we cherish it. If they are to be used as trailing Roses the best plan is to make some rough bearings for the growths, so that they are raised about 18 inches from the ground. They not only can be kept free of weeds, but the growths are more in harmony with those that spring from the base of the plant. I predict that there will be few pergolas but what will contain one or more of these useful additions to our gardens. Their growth well adapts them for all purposes of quick creepers, and so far as can be judged at present they are perfectly hardy, even so hybridised with the Teas, of which the variety under notice is one of the best.—PHILOMEL.

A curious Iris.—A mauve and white Flag Iris has sported somewhat curiously. One flower had five falls and four standards, and several others had four falls and four standards, the normal number of each being of course three.—G. P.

Chinese way of growing Chrysanthemums.—We are just now starting our late dwarf grown Chrysanthemums of usual good kinds, by inserting five or six cuttings round the edge of a 5-inch or 6-inch pot, in which they will produce very fair flowers on stems 12 inches to 16 inches high only, so, of course, they are fed up a little when the pots are full of hungry roots with cow manure and soot, or a sprinkle of fine earth plus Clay's or Standen's manure. This is an old Chinese plan of growing late-blooming dwarf Chrysanthemums, and we find the little plants most useful. They are also a pretty contrast to the big elephants grown in large pots or boxes 9 inches square in the usual way. They are nice for table, nice for rooms, nice to give away, or they yield lots of pretty and not too enormous blooms and sprays for cutting.—F. W. BURBIDGE.

***Embothrium coccineum* and *Tricuspidaria hexapetala* (= *Crinodendron Hookeri*).**—These are very fine in County Wicklow just now. Two trees of the first—20 feet to 25 feet high, and very fresh and healthy—are covered with vivid scarlet trusses that make most zonal *Pelargoniums* look pale; curiously enough the squirrels steal and eat the *Tricuspidaria* flowers, taking them for Cherries, I suppose, but they must find them "good for food" as well as "pleasant to the eye."—F. W. BURBIDGE.

***Coffea robusta*.**—Vast numbers of economic plants, such as India-rubber (*Castilloa elastica*), Cocoa (*Theobroma cacao*), and others are exported to all parts of the world by the Belgian Société Horticole Coloniale. It is interesting to learn that a new species of Coffee (*Coffea robusta*) has been introduced by the society from the Congo, which, from observations made upon it in its native habitat, is believed from its great vigour to be able to resist the disease which has made such terrible inroads upon plantations all over the world. It is at the same time a very free-bearing species, and produces berries of excellent quality. *C. robusta* is handsome as a decorative plant, with its broad shining leaves and abundant bloom. The scented flowers of pure white are succeeded by green berries, which become first yellow and finally turn red, so that the plant is ornamental at all stages. Should it prove on further trial to be absolutely disease-proof it will be gratefully welcomed as an international boon.—K. L. D.

A fragrant semi-climbing Rose.—That splendid sweet-scented Rose Pink Rover, recently mentioned in THE GARDEN by Mr. Woodall, has been very beautiful during the last few days, and it promises to provide us with its exquisite buds for many days to come. Anyone who is a judge of Roses will see a vast difference between this variety and *Souvenir de la Malmaison*, the colour in Pink Rover being much richer than that of the old favourite; in fact, some of its buds are as beautiful as the well-tried *Souvenir d'Un Ami*. I consider Pink Rover a far more useful variety for pillar, hedge, or low porch than climbing Captain Christy even in its blossom, and when it is remembered that the variety under notice possesses a sweet fragrance, quite Tea-like, it will be

doubly valuable to the lover of garden Roses. I remember seeing a rather low trellis some years ago covered with Pink Rover, and it was so effective, and its buds were so useful for cutting, that I have always recommended the Rose when asked to name a good pink semi-climber, a type of Rose which our collection is rather deficient in.—P.

Grouping of flowers at Alnwick Castle.—Large masses of flowering plants may be seen at Alnwick Castle, the northern seat of the Duke of Northumberland. This work has been in progress for several years, and the chief forester, Mr. Gillanders, yearly plants pieces of waste land or nooks in the park with masses of one subject, which is far better than mixing things that vary in size, and some that do not thrive so well as others. Before any large breadth is planted, a trial on a smaller scale is made to test hardiness and if suitable for the exposed position the plants occupy. All seasons are considered, for in the autumn and winter plants that have bright foliage are prominent. At this date (June 10) are large and beautiful masses of flowering plants in variety. In autumn berried plants are charming, and in winter the Willows, Berberis, Dogwoods, and others are bright with their varied tints, which give such charming colour to the country.—G. W.

Lilacs and bullfinches.—When walking round a friend's garden a few weeks ago I remarked how sparsely the Lilacs were blooming, and learnt that the greater part of the buds had been pecked off by small birds, chiefly bullfinches. So bad had been the attack that on some trees there were hardly any flowers at all. The taste displayed by the bullfinch for the buds of fruit trees is well known, but so few instances have come before my notice of the bird attacking Lilacs that I am led to enquire whether any readers of THE GARDEN have suffered in this respect. I am not sure whether the birds have any preference, as is the case with sparrows and Crocuses, but the trees of the white form were more injured than those of the purple flowered kind.—H.

A good pillar Rose.—So rich in its beautiful maroon-crimson flowers is the Bourbon Robusta that one is apt to take it for a climbing Louis Van Houtte or Victor Hugo. The flowers are not so fine as those of the two Roses mentioned, but for effectiveness Robusta stands unrivalled as a crimson pillar variety. I am surprised it is not more grown. I saw it last season in the dell rosery at Kew, so that perhaps when these plants are established it will be duly noted by the thousands who visit these beautiful gardens. It has, moreover, the merit of flowering early—some two weeks or more before Crimson Rambler—and the name indicates its vigorous growth. The flowers are produced in fine trusses, some five or six buds to a truss, and the variety thus remains long in beauty.—P.

Tufted Pansy *Nellie Riding*.—Rayless yellow Pansies a few years since were almost unknown, and yet at the present time there is quite a plethora of first-class sorts. The variety *Nellie Riding* is distinct on account of its free display of large flowers of the most refined kind. When once the plants get established the return they give is excellent. The flowers are almost circular in shape, of the richest yellow colour, with a deeper shade on the lower petal. Each flower appears on a good footstalk, the plants making a beautiful carpeting of green. When visiting Tamworth recently I saw large beds in full blossom, and Mr. William Sydenham may be justly proud of this superb variety.—C.

Tufted Pansy *Miss Gertie Waterer*.—Of the many excellent white tufted Pansies this variety is undoubtedly one of the best. It is not for exhibition that the flowers are best appreciated, but for their effect in beds and borders. Mr. H. J. Jones recently showed me a small group of this variety; the flowers were of medium size, white, with the faintest suspicion of blush colouring, really a very dainty flower. The habit is ideal, large plants developing into perfect tufts, and the constitution is all that is needed in plants of this kind. It blooms profusely and continuously.—C.

Rose Longworth Rambler.—I see a statement on page 433 that "Longworth Rambler is a fine late bloomer, but not quite so free as an Ayrshire." This is often said in your paper, but so contrary to what I find. I had four, two on the house and two on fences. In both places they bloom before the Ayrshire hedge, with this further advantage, they keep on blooming till November frosts cut them off, and on a south wall they are just as evergreen as *Aimée Vibert*.—R. S. STONEHAM, *Godstone Court, Godstone, Surrey.*

Rhododendrons in Hyde Park.—Annually, from what might very aptly be termed Rhododendron land, Knap Hill, Woking, Mr. Anthony Waterer makes a gorgeous display of these fine flowering shrubs near Albert Gate and Hyde Park Corner. At the present time the fine standards are in splendid condition, making a brilliant show. There are some fine specimens on the grass, as well as several beds, in which the flowers are so dense that the foliage is almost hidden from view. It may prove of practical interest to put on record the names of some of the best varieties, most of them raised at Knap Hill, in a collection that cannot fail to prove of educational value to those privileged to witness it. Fair Helen, pure white, finely marked; Vivian Grey, bright rosy pink, distinctly and beautifully spotted; Michael Waterer, crimson, spotted fine; John Waterer, dark crimson, very free; Princess Mary of Cambridge, light blush, deeper edging; Kate Alice Waterer, light centre, scarlet edged; Martin Hope Sutton, scarlet, richly marked, distinct and very fine; Duchess of Connaught, white, yellow spots, very showy; Concessum, clear pink, light centre, beautiful; Baron Schroeder, plum, yellow centre; Album elegans, blush, changing to white, fine shape; Fastuosum flore-pleno, mauve, immense trusses of double flowers, remaining a long time in bloom; Sappho, white, distinctly blotched with maroon; Mme. Carvalho, blush, changing to pure white; H. H. Hunnewell, rich dark crimson, splendid truss; J. Marshall Brooks, rich scarlet, with a bronze spot, distinct and beautiful; Scipio, rose, with a fine deep spot; Lady Eleanor Cathcart, pale rose, spotted chocolate; Lady Grey Egerton, silvery blush, splendid truss and foliage; Roseum elegans, good rose, an old and general favourite; Marchioness of Lansdown, pale rose, with an intense black spot, one of the most distinct and telling varieties; Mrs. Charles Leaf, rose, light centre; Mrs. Charles Sargent, pink, fine truss; Mrs. John Clutton, the most beautiful hardy white Rhododendron in cultivation; Mrs. John Penn, salmon-pink; Mrs. R. S. Holford, rich salmon; and Mrs. W. Agnew, pale rose, yellow centre.—*Quo.*

French Horticultural Society of London.—This excellent society still continues to give good proof of its great usefulness in the horticultural world, and under the able management of its devoted president, Mr. George Schneider, is not only flourishing numerically but financially. Its annual bulletin, containing a record of the past year's work, has recently reached us, and we are pleased to notice from the list of membership that it is patronised not only by many of the leading continental nurserymen, but also by many English horticulturists, both amateur and professional. Besides the rules, balance-sheet, report of the annual dinner, catalogue of the society, library, and reports of the monthly meetings, there are papers by some of the young members dealing with various subjects of horticultural interest. Some of these are illustrated, and among them may be mentioned Mr. Louis Gentil's paper on "A Voyage to the Congo," "Propagating Ferns," "Foreign Flowers at Covent Garden," "Cold Storage in Horticulture," "Ornamental Foliage Plants," "Notes on Mr. Whiteley's Nursery," "A Visit to the Hyères Jardin d'Acclimatation," and many more. An excellent portrait and biographical notice of the late John Laing is also given.

Trees at Fulham Palace.—The grounds, covering an area of some twenty acres, surrounding this quiet rural retreat of the Bishop of London are of park-like beauty. In their limits are many rare and fine specimen trees. They are relics of the old botanical collection which, under

Bishops Grindall and Sheldon, gave to Fulham a tree fame such as that possessed by Kew to-day. Here are to be seen beautiful Elms, Sycamores, Limes, and Planes, which probably rank amongst the finest in this country. What splendid specimens of Horse Chestnuts, evergreen and Lucombe Oaks. The glorious purple Beeches, too, arrest attention. A gigantic Cedar of Lebanon on the lawn is well worthy of note. A very large Plane compels notice, as does also a Cork tree, but which, unfortunately, has seen its best days, and quite worthy of mention is a Pomegranate tree in the southern front of the house. In a hot summer a year ago it blossomed for the first time within living memory. There are some beautiful specimens of *Acacia Julibrissin*—the Silk tree—with its delicate foliage and beautiful racemes of white flowers. This tree is, indeed, a conspicuously charming object. The Catalpa presents quite a tropical appearance, with its large dark green foliage and racemes of flowers similar to the Horse Chestnut. This will be at its best about August. Of the trembling Aspen—*Populus tremula*—there are some very large specimens.—*Quo.*

Aquilegia Stuartii.—A good many people find that this charming hybrid *Aquilegia* is not perennial in their gardens, and it is not often that one sees it growing into large plants and showing by the freedom with which it flowers that it is thoroughly at home. In the pretty garden at Cavens, in Kirkcudbrightshire, it is quite happy, and a number of plants raised from seed a few years ago have bloomed very freely and strongly this season. I see that it is recommended that it should be planted where it does not get the morning sun when in flower. This may be necessary in the south of England, but in the north and in Scotland one need not trouble about this, as Dr. Stuart's Columbine does not appear to have its flowers affected by the morning sun in our northern latitudes. It is growing in several positions and exposures at Cavens, and in all it flowers and retains its colour without any special care. *A. Stuartii* is too scarce in gardens yet.—S. A.

The promise of Cherries.—Of all the fruits grown in the county of Kent none is more important than the Cherry, and ever since the numerous orchards were sheets of pink and white blossoms the prospect of fruit has been a subject for general discussion. Now that the flowers have gone and the fruit is swelling, the minds of growers are more at rest, for the promise is highly satisfactory. There is every reason to think that the Cherry crop will be the best we have had for some years, for trees everywhere are well laden with fruit. The unfortunate consequences which follow a glut of other stone fruits do not affect the Cherry, for the southern county practically holds the monopoly of this popular fruit, and with the heaviest of crops they can be disposed of at a paying price. The sales of the fruit have already begun, preparations are being made for picking, and soon the Cherry harvest will be in full swing.—G. H. H.

The drought and the Pea crop.—In hot sunny gardens, where the soil is light and shallow, the effect of the drought is already making itself felt amongst the Peas. The lower leaves on the stems are turning brown and withered, the pods of the early varieties are not swelling out so well as we like to see them, and rain is badly wanted. Unless this soon comes, I am afraid the effect on the main crop sorts will be even more disastrous, and we shall have to add another to the list of bad Pea seasons. It is at trying times like the present, however, that the benefits of deep cultivation, with manure placed well beneath the surface, are felt, and the wisdom of trenching for this crop is apparent. If the drought continues water and liquid manure must be brought to the rescue, and the benefits of these applications are enhanced if followed by a mulching of littery manure along the rows.—H.

Paradisea (Anthericum) Liliastrium major.—It may seem almost superfluous to write anything about St. Bruno's Lily, but one constantly finds that people who grow flowers need to have their attention drawn to the

best of our old plants, as well as to those which are newly introduced to our gardens. Hardly, therefore, will anyone who knows *Paradisea* or *Anthericum Liliastrium* consider it unworthy of a brief note at the present time, when it is so charming with its spike of pure white flowers, which are quite Lily-like in their form and loveliness. Pretty as is the type, the major form is even more attractive, and seen, as it might be, in large numbers in good gardens, it would create admiration whenever in flower. Naturally an alpine meadow plant, although it likes a sandy soil, it is not happiest in a dry sunny border, where it is standing apart from other flowers, but looks better and thrives better with encompassing herbage, which will take the place of that which surrounds it in its native meadows. It does not object to a little shade, though it does well in sun if it has the surrounding soil carpeted, and has a fair amount of moisture in spring and when coming into bloom. I can speak feelingly about this, as I have lost plants in dry borders where spring and summer watering could not well be attended to. In such dry places it is much benefited by a mulch of some loose material, but nothing will properly compensate for its natural carpet save growing it through dwarf surface-rooting plants. Even if the carpeting plant comes to some distance up the stalks it takes nothing from the beauty of St. Bruno's Lily.—S. A.

Pyrethrum Jubilee.—This single *Pyrethrum* well maintains the high opinion formed of its merits when it was first distributed, and large breadths of its rich velvety crimson-scarlet blossoms, which are set off by their rich yellow disc, are very effective. It is of strong growth, small pieces quickly developing into large clumps. When the plants are divided in the early spring the result is very satisfactory. Flowers from plants from spring division are finer in colour and larger.—C. A. H.

Rose Mme. Marie Lavallee.—This flower possesses a subtle charm. All who care for these semi-double Roses should obtain this variety if they do not already possess it. Just now on big bushes it is yielding a rich profusion of blossom, which suggests its use as a Rose for massing. If the growths are sparsely pruned and allowed to grow at will the flowers appear all over the shoots. In a large garden a few bold growing kinds are sometimes desired either in masses or in groups of threes, fours, or fives, and this Rose would be a very suitable one for the purpose. The ruffled centre of this semi-double Rose, the transparency of the petals, and the mottled and veined colouring in tender pink all combine to make a flower of great beauty. I consider this Rose worthy of being freely grown, and it is certainly not the least useful of M. Nabonnand's introductions.—P.

Stocks in May.—A couple of weeks ago, on page 385 of THE GARDEN, amongst May flowers alluded to by your correspondent, I was surprised to see no mention made of any species of Stocks as blooming in May. Perhaps it will interest some of your readers to learn that at the end of May or early June last year I put in some dozen and a half plants of East Lothian and German Intermediate. They did not bloom that year, though they grew into nice sturdy bushes about a foot high. I planted them in some small beds of common garden soil, giving them no care except necessary watering and some liquid manure during summer and autumn. They showed no signs of bloom till early spring this year, when some flower-buds appeared. During the winter they were all lying down and much shaken by the wind. Seeing signs of healthy life I staked them carefully in March. They got no other care. In early April, the weather being bright and sunny, colour began to show, and in a week or two they were a mass of bloom, perfuming the whole place all through May. About half of them were double, some snow-white, and others rosy red. The single ones are all seeding now, but the others are likely to continue in nice bloom for some weeks. We are situated on the quay, but fairly well sheltered from north, east, and west, and have sunshine now from 10 a.m. till early afternoon.—P. F. O'REILLY, *Wexford, Ireland.*

Aubrietias.—It is a matter for regret that in connection with these charming hardy plants there should be such a tendency to give to varieties not mere ordinary varietal but specific names. Thus we have A. Campbelli, A. Hendersoni, A. violacea, A. Leichtlini, and others. That style of nomenclature has rather led some persons to infer that these are all diverse species, whereas they are but varietal forms of A. deltoidea. I do not understand why objection should be raised to the separate naming of new varieties if they be distinct, seeing that whilst not capable of being reproduced true from seed, as is the case with myriads of other named plants, yet they can be propagated by cuttings and division with the greatest facility. Now two of the most recent additions to the list of Aubrietia varieties are Dr. Mules, the bluest of all yet in commerce, and Fire King, the reddest, for it materially excels Leichtlini in the matter of colour. These have as much right to distinct appellations as have any others, and when grown, as I have seen them, to droop down over rockwork they are singularly beautiful. I cannot at all admire such long appellations as Souvenir du William Ingram or Beauty of Baden-Baden—to give such titles is a mistake. Ingram's Ruby and Baden Beauty may have been inoffensive. This latter variety has yet been little seen; its flowers, pale pink in colour, are as large as those of any ordinary single Arabis, and rather rounder. I am not anxious to see these plants gross in habit or producing large flowers. Beautiful as Aubrietias are, yet how few have good varieties!—K.

Duchess of Cornwall Peach.—As it is mentioned in your report of the late Drill Hall meeting that an award of merit was granted to a Peach shown by Messrs. Rivers and Sons under the above name, will you please allow me to state that it is the same Peach to which an award of merit was made at the recent Temple show under the name of Duchess of York, and there can be no doubt but that it is the earliest ripening Peach yet raised; but it was found on referring to the Royal Horticultural Society's lists of awards that some two years since an award of merit was given to a Peach named Duchess of York shown by Mr. Rivers. It is true that variety has not been put into commerce, but awards to two Peaches of the same name could not be sanctioned; hence at the recent meeting Messrs. Rivers and Sons agreed, on the proposition of the fruit committee, to change the name of their variety to Duchess of Cornwall, and to that name, which will appear in the society's list, the previous award made to the Peach was confirmed.—A. D.

Wistaria sinensis.—A Wistaria planted against a Spruce Fir, 30 feet high, nineteen years ago has taken possession of the whole tree, and covers it up from top to bottom; the racemes are 2 feet 5 inches in length.—F. G. COLERIDGE, Twyford, Berks. [We regret that a photograph accompanying this note was not clear enough for reproduction.—Eds.]

Floral gargoyles.—Artificial wreaths on graves.—In the church porch of Sompotting, Sussex, the following notice appears, signed by the vicar:—"Any person wishing to place an artificial wreath on a grave must obtain legal permission to do so. The cost will be three guineas, or one guinea to the Chancellor of the Diocese, one guinea to the Registrar of the Diocese, and one guinea to the vicar."

The true Cheshire Damson.—I have been surprised until recently that this fruit is always treated with scant courtesy in the gardening press, and our friends from the south always speak of it with contempt until they taste the fruit here. The Cheshire Damson appears to be only locally known, that grown in the south being a totally different thing, larger and practically flavourless, similar, if not identical, with what we know as the "Damascene," or cluster Damson. The true Cheshire Damson is, in our estimation, undoubtedly the best of the Plum family, with a rich flavour peculiar to itself, and which, once tasted, is never forgotten. It would be interesting to know how far the district extends in which the true Cheshire Damson is grown. The finest, so far as our experience goes, are grown about Peck-

forton and Beeston Castle, in the heart of Cheshire. Here, on the borders of Lancashire, the crop is uncertain and very liable to be injured or completely destroyed by early frosts; we appear to be on its extreme northern limits. In good years the local markets are swamped, and the bad reputation of the southern variety prevents the surplus being sent south, where, if it were only known, it would find a ready sale at high prices. There is every probability of a large crop this year, and if the editors have any desire to know what the real Cheshire Damson is I shall be pleased to send a hamper when they are ready.—THOMAS FLETCHER, Grappenhall, Cheshire.

Rosa xanthina.—This pretty single yellow Rose, which is readily obtainable from some nurserymen, is quite an acquisition, and is now blooming freely in my garden, where I appreciate its soft yellow flowers. These are charming either in bud or when fully open, and their beauty seems all the greater because of the pretty pea-green foliage of the bush which produces them. It is, I believe, a Chinese species, and the "Index Kewensis" refers us to Lindley's Monograph of the genus, which I regret to say I do not possess. It seems much easier to grow than the Austrian Briers, and forms a welcome change and variety in gardens where the Rose species are much grown.—S. ARNOTT.

Mimulus Burneti.—There are many gardens where the greater number of the Mimuli are far from hardy, although they may survive for a few years under favourable conditions in winter. This hybrid Mimulus is, therefore, likely to be a valuable plant, inasmuch as it will live in gardens where such plants as M. cupreus are sure to be lost in unfavourable seasons. It is a hybrid between our native M. luteus, so well known in some quarters, and the pretty M. cupreus, which I cannot retain long in the garden. From the latter it takes much of its colour, especially when the blooms are not of full size, and it is intermediate in height between the two, approaching, however, in this respect that of M. luteus. With me it grows rather taller than in the only other garden where I have seen it. It was raised at Aberdeen, and has not yet, so far as I know, been offered by any of the trade in this country. Its hardiness and beauty entitle it to some notice.—S. ARNOTT, Carsethorn, by Dumfries, N.B.

AMERICAN NOTES.

AMERICAN HORTICULTURE HONOURED.

FOR the third time since the institution in 1889 of the practice of bestowing the Veitch memorial medals to men most prominent in horticulture, an American representative is the recipient. The veteran nurseryman and botanist, Thomas Meehan, of Philadelphia, Pa., has added another leaf to his crown of laurels. Other American holders of the medal are Professor C. S. Sargent, 1896, and Professor L. H. Bailey, 1897.

The Veitch memorial is a trust fund raised by subscription to the memory of J. G. Veitch, the famous English nurseryman and plant collector. For many years after its foundation the income was devoted solely to giving medals and cash prizes at the leading exhibitions, but it came to be felt that there were outside the ranks of exhibitors men worthy of honour, and so the system of bestowing medals *honoris causa* was adopted.

Mr. Meehan is a man of much modesty, and although universally respected (and moreover beloved by all who know him), he does not receive full justice. It was only very recently that we had occasion to make mention of Mr. Meehan in his relation to the schools of Philadelphia.

The career of Thomas Meehan is one to put before the young gardener as an incitement to work and study. By birth an Englishman, by profession a gardener, he has raised himself from a journeyman to be a leading municipal dignitary of a great city, the head of one of the most important nurseries in the United States, well known also in Europe for its collections of hardy trees; and what is of higher moment than mere business success is the fact that so important and so numerous have

been his contributions to science that for thirty years he has held the position of vice-president of the Academy of Natural Sciences in Philadelphia. His botanical work is marked by much originality and power of observation. He edited the *Gardeners' Monthly* (since absorbed into *American Gardening*) for thirty years, was a leading contributor to at least six other journals, and still edits *Meehan's Monthly*. As a practical man he is remembered as being one of the earliest to hybridise the Fuchsia, he having raised a cross between F. fulgens and F. longiflora, which received the name of St. Clair. He was the first to flower the Victoria regia in the United States.

Mr. Meehan takes a leading part in municipal matters in Philadelphia, of whose common council he is the father, and it is to his exertions chiefly that the city has been provided with museums and public parks, the first of which was the garden of the American botanist, Bartram.

"At the end of my father's apprenticeship in the garden of the Lord-Lieutenant of Ireland," writes Thomas Meehan, "he came at once to Watson's nursery at St. Albans. He was as early in life fond of botany and gardening as I was subsequently. I was head gardener, with one man under me, for Mr. Vaux, paymaster to Her Majesty's forces, and secretary to the Ryde Horticultural Society, when I was but seventeen; and at eighteen I was gardener to Sir Augustus Clifford, Usher of the Black Rod, going to Kew in my nineteenth year;" where, says the *Gardeners' Chronicle*, his political opinions are said to have given offence to Sir William Hooker, the director.

"My mother was of the Denham family. When they married, both my father and my mother had considerable means, which they invested in the purchase of a fruiterer and provision business in Regent's Park—'good will' being a great consideration, when there was none to speak of. The business being unsuccessful, my father at once found a refuge in Oxley and Bunney's nursery, at Ball's Pond, Islington, from whence he was engaged as gardener to John Young, Esq., on his large estate at Westridge, in the Isle of Wight."

In 1848 Mr. Meehan left Kew, and landing in the United States, entered the establishment of Robert Buist. In 1852 he started the famous nursery at Germantown, but lost nearly everything during the War of Secession.

Mr. Meehan has done very much in the popularising of many handsome decorative trees and shrubs, and his contributions to the history of horticulture of Pennsylvania are not only important as such, but are fascinating reading from the pure literary style of the author.—*American Gardening*.

BOOKS.

Sander's Orchid Guide.*—So much interest is taken in the cultivation of Orchids at the present day that the appearance of this excellent guide from Messrs. Sander and Sons, of St. Albans, is most opportune. The name of "Sander" is sufficient guarantee for the worth of this book, or, as the authors modestly say in the introduction, "Catalogue of Orchids." We feel sure that "it will be found useful to all Orchidists, and especially to amateurs about to form a collection, as well as to those who wish to add to or improve one already in existence." This catalogue comprises the best known species and varieties, but "from the vast number we annually import new forms are continually flowering, and new hybrids, &c., of our own raising are constantly being added to the beautiful kinds existing. The minor species we have deleted, as it would be superfluous to attempt to catalogue and describe all the known kinds, many of which are of merely botanical interest. We have included such plants as we have in stock, and which purchasers are generally selecting." There is a brief chapter upon general culture, which is of great value to beginners, and the whole book is clearly printed and full of good

* "Sander's Orchid Guide." Published by Messrs. Sander and Co., St. Albans. Price 10s. 6d.

matter about this great and increasingly popular family. This guide contains the names of all the best known species, varieties, and hybrids in cultivation, their native countries, descriptions, seasons of flowering, best methods of cultivation, temperatures, &c., together with the names and parentage of all the known hybrids until January 1 last. No one who is at all interested in Orchids should be without this important work.

The following remarks about general culture will interest our readers.

The letters *S.* (stove), *I.* (intermediate), *C.* (cool), opposite each plant, refer to the respective houses or divisions most suitable for the plants, the temperatures for which are as follows:—

STOVE.—During the summer 65° to 70° Fahr. (18 to 21 per cent.) by night and 70° to 80° (21 to 27 per cent.) by day, rising higher during sunshine. Winter, 60° to 65° (16 to 18 per cent.) by night and 60° to 70° (16 to 21 per cent.) by day.

INTERMEDIATE.—During summer 60° to 65° (16 to 18 per cent.) by night and 65° to 70° (18 to 21 per cent.) by day; higher with sun. Winter, 55° to 60° (13 to 16 per cent.) by night and 60° to 65° (16 to 18 per cent.) by day.

COOL.—This division should be kept as near 60° Fahr. (16 per cent.) as possible by day and 55° (13 per cent.) by night during summer. In winter the night temperature may fall to 45° to 50° (7 to 10 per cent.) without injury to the plants, but should be increased to 55° to 57° (13 to 14 per cent.) during the day.

The foregoing temperatures must, however, only be regarded as averages; the maximum temperatures may often slightly exceed that given above during the summer, while care is necessary during the spring and late autumn months to keep the temperature as steady as possible; but with sunshiny weather, in summer, the temperatures may run up with much advantage; providing there is plenty of fresh air circulating among the plants, night and day, they will flourish; and at night abundance of moisture may be allowed if the temperatures do not fall below those specified.

VENTILATION.—Coming, as nearly all Orchids do, from hilly and mountainous countries, fresh air is vital to them, and should be freely admitted on all possible occasions, particularly in the cool and intermediate houses. In the stove or East Indian house, so called from the class of Orchids usually grown in it, with its higher temperature,

though quite as beneficial to the plants, air cannot be so freely admitted or harm will result from the lowered temperature. Ventilators in the top of the house can only be opened at the most for a short time each day, and even then not sufficiently wide to allow the atmosphere to become too dry, air being chiefly admitted by the bottom ventilators. Air may be left on the bottom ventilators during the summer both day and night, and also, but to a less extent, in the winter, especially in frosty, east winds. When top air is given, discretion must always be used and the outdoor temperature studied or too much moisture escapes from the house, causing a dry, arid atmosphere in the place of a moist, genial one. This applies to all Orchid houses.

SHADING is most convenient in the form of roller blinds made of canvas netting or wooden laths; the latter have lately become very popular. Whatever material is used, it is better to be left in position all the year, and should be so arranged as to be easily run up and down. Blinds are as useful in keeping out the cold on a winter's night as in keeping the sun off the plants in summer. An air space of a few inches between the glass and the blinds is desirable, as this tends to keep a more even temperature in the house, and allows a free circulation of air over the outer surface of the glass. It should always be remembered that Orchids, with very few exceptions, require and enjoy light and sunlight, but not the sun's direct rays, hence the great superiority of roller blinds over permanent shading. In a climate such as we have in Britain, in spring and autumn, blinds may not be wanted down twice in a week to prevent the sun's rays injuring the plants; a command over the shading, therefore, is a distinct advantage to the cultivator.

WATERING.—Rain water is more preferable for most plants, especially Orchids, and should always be stored in sufficient quantity for use, but as a moist atmosphere with air is conducive to the well-being of the plants to avoid wasting rain water, hard water may be used for damping the paths, stages, &c., this operation being done as often as required during both summer and winter, excepting in the case of deciduous Orchids, which are not injured by a somewhat drier atmosphere in the winter. In all the houses the plants are greatly benefited, especially during summer, by frequent dampings between the pots. When

properly potted in well-drained pots or pans, nearly all Orchids, when in full growth, benefit by frequent waterings, but when the season's growth is completed and during dull weather water only when absolutely needful, but damping between the pots is always beneficial.

POTTING.—We have thought it best to give directions on this subject to each genus, but it may here be stated that it is needful to repot Orchids before the soil becomes sour, using the best materials. The most generally used and safest compost for potting is good fibrous peat and fresh sphagnum moss in equal parts mixed with small broken crocks, and a little coarse sand added to keep same sweet and open, and for all ample drainage is essential. Many grand examples of culture have been attained by using no crocks, or at the most one, and filling the pot half full of the rhizomes of the bracken cut in small pieces, but care must be taken that the compost does not become sour through over watering. Many and various substances have been tried for potting Orchids, but we have given those which we know to be the best in the main for Britain; still grand specimens have been grown in Jadoo, and also leaf-mould, especially Belgian leaf-mould (*terre bruyère*). In the latter may be found many thousands of Orchids thriving splendidly.

THE BOTANIC GARDENS, BATH.

THE city of Bath is singularly fortunate in possessing such an extensive and beautifully-arranged domain as the Royal Victoria Park, in which is included the lovely Botanic Gardens. For some years now the writer has paid many enjoyable visits to Bath in the spring time, when both park and garden are probably to be seen at their best, and has spent many pleasant and instructive hours in the Botanic Garden. Bath is essentially a residential town, and Edward Fitzgerald wrote that "one beautiful feature in the place is the quantity of garden and orchard it is all through embroidered with." There are few manufactories, and consequently no smoke plague, and the combination of pure air and mild climate is conducive to the favourable growth of both trees, shrubs, and alpine plants.

The park, which lies on the western confines of the city, and is very easily reached from the centre of the town, owes its inception to two citizens, Messrs. J. Davis and T. B. Coward. An agitation was commenced in 1820 to lay out the Freeman's estate, but nothing was done until these two gentlemen devoted their attention to the work. The Freeman granted their land at a moderate rent, Lady Rivers conceded the privilege of a passage through what was called the Crescent Fields, and on January 1, 1830, a meeting was held and a subscription list opened, which soon amounted to £4,000. The laying out of the park was entrusted to Mr. F. Davis, who found that the gentle declivity and undulating slope afforded ample scope for his genius as a landscape gardener, and £8,000 was expended on the work. Walks and drives were laid out—the main carriage drive through the park extends a mile and a quarter in length—and a beautiful collection of trees and shrubs was planted, until at the present time the 49½ acres over which the park extends is a veritable arboretum. The site is a gentle ascent overlooking the city, and giving a succession of beautiful views. The park was named after Queen Victoria, who, as the Princess Victoria, came with the Duchess of Kent and formally opened it on October 23, 1830, the princess then being twelve years of age. Its



VIEW OF ROCK GARDEN (SHOWING EUPHORBIA CHARACIAS, ANEMONE SYLVESTRIS, AND SAXIFRAGES)

management is in the hands of a private committee, the chairman being Mr. J. S. Bartrum. The Broome Botanical Garden owes its origin to the late Mr. C. E. Broome, F.L.S., who established at his residence—Elmhurst, Batheaston—a valuable collection of herbaceous and alpine plants, which, after his death, his widow presented to the Park Committee. There was, however, no place suitable to accommodate this large collection, but the committee decided to accept it and to lay out a garden for the purpose. Accordingly a plot of ground of about 3 acres in extent, which was found available, was laid out, under the direction of Mr. J. W. Morris, F.L.S., by Mr. J. Milburn. How well that task was performed the garden itself bears eloquent testimony, and much thoughtful care has been bestowed in laying out and improving it from time to time. The harmonious grouping of the flowering shrubs, the picturesque colour blending of the foliage trees, the high banks which shelter the gardens, the slopes, hollows, borders, and rock garden, bejewelled with alpine flowers, all show the good taste of those responsible for its keeping.

In no slight degree the rock garden owes its success to the magnificent weathered oolite stone with which it is constructed. This can only be obtained locally, and was partly used in the construction of the rock garden at Kew. It is very fossiliferous, often of fantastic shape, and most of the stones are worn into large holes and crevices, in which the alpine plants are growing in wild profusion. Some of the stones employed are immense, and involved a great amount of labour before they were finally put into position. On entering

THE BOG GARDEN is first noticed. This has only recently been made, but is already showing its true character. Large breadths of *Primula japonica*, *Saxifraga peltata*, and *Caltha palustris* fl.-pl. (the double Marsh Marigold) were in full bloom, and contrasted well with *Rodgersia podophylla*, the lovely Japanese bronze leaf, and such Ferns as *Osmunda regalis* and *Polystichum munitum* (the American Holly Fern). In and around the Bog Garden a number of rare and interesting plants and small shrubs are doing well, and there is a small tank containing *Nymphaea alba* and other water plants. Especially noted were: *Salix reticulata*, a large patch of this dwarf Willow, which must surely be as slow growing as some of the pigmy Japanese trees now so much in vogue; *Podophyllum emodi*, with its marbled leaves, has flowered well and set fruit; *Juncus effusus spiralis*, the curious twisted Rush; numerous *Primulas*, amongst which *involucrata* was well in flower; *Gunnera chilensis*; *Cytisus præcox*, with its showers of cream-yellow blossom; *Clematis grata*; *Veronica incisa pedatifida*, a pretty, erect, little bush about 2 feet in height. This comes from Siberia, and has very finely cut light green foliage. Then we noticed a good form of *Daphne pontica*, which was covered with its clusters of reflexed green blossoms, *Shortia galacifolia*, *Morisia hypogaea*, covered with its minute yellow flowers, while in the shade of a large Yew, which it will soon entwine with festoons of its delicate growth, *Tropæolum speciosum* was coming up. *Muhlenbeckia complexa* is delightful, growing in a shady nook in pure leaf-mould, and completely covering

a large stone with its trailing growth and Maidenhair Fern-like foliage. Other plants here noted were *Geum triflorum*, *Viola rothomagensis*, the pretty little Rouen Violet, *Trillium grandiflorum*, very finely flowered, and the pretty little *Veronica repens*. Emerging from the Bog Garden, we come upon

THE ROCK GARDEN,

which is formed like a ravine, with steep rocky banks on either side. On the south side the first thing that we noticed was a large mass of the double white *Arabis Corbeille d'Argent*, or *A. albida* fl.-pl., to give the true name, so covered with its white blossoms as to completely hide the foliage. Here Mr. Milburn's true eye for colour reveals itself to the utmost, for planted in the midst of the *Arabis* is *Heuchera glabra*, its deep-veined, claret-coloured leaves showing to advantage against the cool white of the *Arabis* flowers. A little farther on is a magnificent plant of *Daphne Cneorum*. Its lovely mass of rich crimson-pink flowers, so enhanced by their sweet fragrance, have been the subject of much admiration. Close against this are *Hutchinsia alpina*, a very good carpet plant with its neat little white blossoms, and *Armeria cespitosa*, a very neat Thrift, which resembles a minute *Acantholimum*.

Then we noticed *Astrantia major variegata*, very beautiful with its green and yellow leaves; *Convolvulus Cneorum*, always attractive because of its silvery-silky leaves and its delicate pink flowers so freely produced during the summer; and *Viola persicifolia*, a little white flower edged with light blue. Some of the *Erodiums* do exceptionally well, and two of them call for special mention. They are *pelargoniflorum* and *guttatum*. The former, which is a fairly recent introduction, is a most beautiful, distinct, and refined plant, of a very high order of merit. This is greatly prized at Bitton, from where Mr. Milburn originally obtained it. As its name implies, in growth it very much resembles a *Pelargonium*, both in habit and in foliage. The flowers, which are five-petalled, are white, with the two upper ones blotched a deep lilac-crimson, while the three lower ones are veined with the same colour, only a shade lighter. Both at Bath and Bitton it has proved hardy, and is easily raised both from seed and cuttings, so it should soon become plentiful.

Erodium guttatum is, of course, much better known, and, though decidedly inferior to the first-mentioned, is extremely pretty with its elegantly cut grey-green foliage and white flowers blotched with rose-purple and veined with lilac-rose.

EUPHORBIAS

are well represented, but *Euphorbia Wulfeni*, which has been so well illustrated and described by the Rev. H. Ewbank in THE GARDEN, was not flowering so freely as last year, though it has increased in size and carried some large trusses of its curious flowers. Another *Euphorbia*, which is useful for planting on dry, arid banks where not much else will grow, is *E. characias*. At Bath it looked very picturesque planted close to some rough stone steps. Other *Euphorbias* noticed were *capitata*, *hiberna*, and *amygdaloides variegata*. This latter plant is a new acquisition, and is thought very highly of. It is about 18 inches in height, and the variegation, which is constant, is a perfect mixture of green and white. On the middle rockery are to be found many rare and beautiful plants. Foremost is *Anthyllis erinacea*, truly a lovely plant for a hot dry south position. At Bitton the writer saw it in its full beauty, and at Bath it is growing quite as well. In appearance it rather resembles a dwarf Gorse, with spines nearly 3 inches long, of a silvery-grey colour. The flowers also resemble those of a Gorse in shape and habit, but are of a rich clear purple, almost startling in its intensity. Canon Ellacombe has it labelled *Erinacea pungens*, but Mr. Milburn says that *Anthyllis erinacea* is the correct name. Here also are two fine bushes of *Astragalus tragacantha*, a plant from the Mediterranean region which is very rarely seen. It is certainly unique, with its finely cut leaves of a greyish green colour, covered at the back with silvery hairs, and its stiff spines, which are 1½ inches to 2 inches in length, are of a brown colour. The flowers, which are borne in clusters at the extremity of the shoots, closely resemble those of a *Cytisus*, and are white, tinted a pale lavender on the inside.

Here also is a happy blending of *Dryas octopetala* and *Alyssum montanum* growing and flowering together in the wildest profusion. No happier choice could have possibly been made than planting these two delightful carpeters together. The *Dryas*, with its pale creamy yellow flowers and deep green foliage, is so in harmony with its neat little yellow-flowered companion. *Geranium argenteum*, *Geranium cinereum*, *Helianthemums*, *Cistuses*, and *Sempervivums* all flourish amazingly. *Saxifrages* are also at home, especially *muscoideus* *Rhei*, very beautiful; *cuneifolia*, *aizoon* and its varieties, *luteo-viridis*, *purpurascens*, growing well in shade, and *burseriana*.

The *Rubus* family are well represented, and a bush of *deliciosus*, with its large pure white flowers, planted close against the cool deep green of *Euphorbia Wulfeni*, has found many admirers. Interesting, too, was *Rubus australis*, a miniature little Bramble with tiny thorns, which was not, however, out in leaf. One of the gems of the collection is *Rubus japonicus tricolor*, a most



ERODIUM PELARGONIIFLORUM IN BATH BOTANIC GARDEN.

dainty and extremely handsome little shrub, which possesses, however, the reputation of being difficult to grow. It is succeeding well at Bath, and increasing very slowly by underground suckers, which come up some distance from the plant. This also came from Canon Ellacombe, who, however, has found great difficulty in getting it established. The new growth is at first a brilliant crimson, and the value of the plant lies wholly in its delightful foliage, which is variegated in three colours, green, white, and red. A very nice plant of that rare single *Pæony*, *whitmanniana*, carried eight large expanded blooms of a soft creamy yellow. Inside the flower is a mass of lovely golden stamens, tinted a rich crimson at the base.

On the north side of the rock garden are many plants of great beauty and interest. Here the stones are veiled with the tiny *Arenaria balearica*, groups of *Anemones* cover the rocks with nodding flowers—such things as *sylvestris*, *narcissiflora*, *robinsoniana*, *hortensis* and its varieties, and the double white *Wood Anemone* are very good. The pretty little Himalayan *Anemone polyanthes*, which was amongst the collection of plants presented by Lady Lushington, was in bloom. This has small, pure white flowers with a green and yellow centre, and the leaves are heart-shaped, dark green, and leathery in texture. The whole plant, while not being showy, has a very neat appearance. *Primulas* were nearly over, but *P. cortusoides*, *Sieboldi* in variety, and *P. ciliata coccinea*, with yellow-centred crimson flowers, were worthy of note. Numerous *Epimediums*, *Sanguinaria canadensis*, *Stylophorum japonicum*, with yellow, Poppy-like flowers; *Dryas Drummondii*, rather difficult to manage; *Fritillaria pyrenaica*, with its evil-looking flowers; *Cheiranthus Harpur Crewe* and *mutabilis*; *Pentstemon Scouleri*, very pretty; and *Allium vineale*, which Mr. Milburn considers the best of the family, and which will grow well in grass. The flowers are pure white, and the plant has a graceful appearance.

Hardy Orchids, of which *Cypripedium pubescens* was the best, all these are only a tithe of the many and varied plants to be found in this lovely garden. Mention should be made of the uncommon *Prosartes* (*Disporum*) *Hookeri*, which, though not perhaps a plant for everyone, is often admired. It is one of the rarest plants which Mr. Milburn grows, and of which he speaks very highly. This is growing in a moist and shady spot on the north side of the rock garden. Little seems to be known as to the origin of this plant, except that it is a native of North America. The style of growth is very much after that of *Epimedium pinnatum*, especially the stems, which are of the same length and thickness, but are tinted with red. In all other respects the plant is distinct. The flowers are small, tubular, six-petalled, and drooping, with long protruding anthers green-yellow in colour. The value of the plant, however, lies in its foliage, which is of a shining bright green, edged all round with red-brown, and the leaves are very beautiful in shape. When cut it has a most charming effect, and to lovers of North American plants it can be commended, but it will no doubt be difficult to obtain.

Around Bath *Polygonum baldschuanicum* seems to be a great favourite, and the writer saw it in three gardens doing well, and in each case showing bloom. Mr. Milburn grows it up a pole about 8 feet high, and at Bitton it is grown in the same way. In Mr. Leslie William's garden it runs up a wall, and hangs in graceful festoons over the flower border. Another plant which Mr. Milburn grows in the same way is the Golden Hop (*Humulus Lupulus aureus*), which is always admired.



PART OF THE NORTH SIDE OF ROCK GARDEN.

RARE SHRUBS AND TREES

surround the botanical garden. *Photinia serrulata*, with its lovely glossy green foliage is about 18 feet high; *Solanum crispum*, a large bush 6 feet high, covered with its lavender-lilac blooms; *Olearia macrodonta*, with its silver-grey leaves; *Choisya ternata*, a mass of bloom; *Buddleia globosa*, *Ozothamnus rosmarinifolius*, *Coronilla Emerus*, a large bush with its yellow flowers tipped with red-brown; the curious *Coprosma acerosa*; a fine specimen of *Raphiolepis japonica* in perfect health; *Shepherdia argentea*, whose rough, silvery green leaves are so beautiful when placed beneath a microscope; a lovely group of Japanese Maples, numerous Tree *Pæonies*, and *Roses* will give some idea of the wealth of precious things to be found here. Most of the trees and shrubs are grown on grassy banks, where they look their best, and keep the garden sheltered from wind. There is also an extensive collection of Conifers, which contains many fine examples. The whole of the park and botanical garden are under the care of

MR. JOHN MILBURN,

whose courtesy and geniality to everyone is proverbial. Not only is he an enthusiast and a true lover of the beautiful place he so ably manages, but he is always willing to impart any information concerning any tree, plant, or shrub that it is in his power to give. He began life in the gardens of Captain Gregson, at Moorlands, Lancaster. After three years' service there he went for three years to Mr. Fox, head gardener to His Grace the Duke of Devonshire, at Holker Gardens, Carnforth. Then he served two years in the hardy plant department at Kew, and from there came to Bath.

Quite recently a sundial in the shape of a cross, presented by the Rev. E. Essington, has been erected, and bears the following inscription:

"The hours are round this cross, and while 'tis fine
The time is measured by a moving line,
But if the sky be clouded, mark the loss
Of hours not ruled by shadows from the cross."

Bath.

ARTHUR R. GOODWIN.

ROSES FOR COVERING A TRELLIS.

THE beauty and interest of one's garden can often be added to considerably by the erection of trellises and covering them with suitable climbers, and for

this purpose nothing better could be had than *Roses* and perhaps a few *Honeysuckles*. There are always places in a garden where one can with advantage have a trellis, even if only a small one, and when well clothed with suitable climbing *Roses* nothing could be more beautiful when these are in flower. On either side of my house are two short paths about 10 yards long; for several years they were simply edged with narrow borders, planted with various spring and summer flowering things. Three years ago, however, it was decided to erect an arched trellis over each path, and a great success they have proved. At either end of each trellis are stout wooden poles about 7 feet high, well finished at the top so as not to be unsightly; similar poles are in the centre of the trellis also, making six in all. Between the end pole and the central one, on both sides of the walk, there are iron rods, and these when almost level with the tops of the post are arched over to meet on the opposite side. Stout wires stretched horizontally across the iron and wood supports, about 1 foot apart, to which the shoots are attached, complete the erection. Both pathways run from north to south, therefore one side of the trellis is exposed to the east and the other to the west. There is little difference, however, in the behaviour of the plants. The rustic poles, it should be mentioned, are covered with Dutch *Honeysuckle*, and this associates exceedingly well with the *Roses*. Against one trellis are planted these varieties—*Longworth Rambler*, *Mme. Abel Carrière*, *Gloire de Margottin*, *Rêve d'Or*, *Glory of Cheshunt*, and *Thalia*; and against the other, *Aimée Vibert*, *Reine Marie Henriette*, *Fortune's Yellow*, *Cheshunt Hybrid*, *Duchesse d'Auerstadt*, and *Reine Olga de Wurtemberg*. A few notes upon their respective merits, as I have found them to succeed, may perhaps not be without interest to prospective trellis makers and planters.

Longworth Rambler has grown well, having made strong, healthy shoots and leaves. The blooms are fairly large, freely produced, of a rich red-rose in colour, the outer petals tinged with a bluish shade; they have practically no scent. *Mme. Abel Carrière* is a great success; it keeps clean and grows freely. The almost pure white flowers are very pretty in the bud, peculiarly scented, and the plant flowers profusely. *Gloire de Margottin*, producing bright rose-coloured

flowers that have but little scent, has been disappointing. It has made very poor progress. *Rêve d'Or* is fairly satisfactory, it has made good shoots, but this season they appear to be dying off at the top; whether the exceptionally dry spring in some measure is responsible for this I do not know, but it is not improbable; it is, however, the only variety that has behaved in this manner. Many of the buds are malformed. *Glory of Cheshunt* has not succeeded at all—it has practically refused to grow. *Thalia*, sometimes called the *White Rambler*, has done splendidly, being now a larger and finer plant than any of the others, except, perhaps, *Mme. Abel Carrière*. It is simply one mass of bud clusters, and some of the pretty little semi-double white flowers, tinged with pink and yellow, are already open.

Aimée Vibert is usually quite satisfactory, and with me has proved no exception. It grows well, the foliage is a healthy dark green, and bunches of white flowers are abundantly borne. *Reine Marie Henriette* is a splendid Rose. It flowers early and is beautiful in bud, the expanded blooms being red tinged with salmon. I have other plants of this variety growing on a south wall, and probably obtain more flowers from this than any other Rose in my garden. It is a pity it has not more scent. *Fortune's Yellow* has proved a failure so far. *Cheshunt Hybrid* is good, growing strongly, and bearing its rose-lilac flowers quite freely. *Duchesse d'Auerstadt* is a lovely Rose. It has not grown vigorously with me, but the blooms fully make up in quality what is lacking in quantity. In bud

form it is excellent, in colour a soft pale buff-yellow, and deliciously scented. Although it has not up to the present made such strong shoots as one could wish, it is in good health, and doubtless will before long improve. *Reine Olga de Wurtemberg* needs few words of recommendation. It is of a vigorous habit of growth, and bears a profusion of large, handsome, rich rose-coloured flowers, an invaluable Rose for covering trellises.

A. P.

DOUBLE CHINESE PÆONIES.

(*PÆONIA ALBIFLORA*.)

THERE is scarcely any portion of a garden where there is room for plants of bold aspect in which these grand garden flowers will be out of place. The illustration shows how they hold their own in a good mass even in connection with the large forms of ancient buildings. These plants have long been in cultivation in China and Japan, but of late years some of the best garden varieties have been produced by European raisers. The type plant, *P. albiflora*, is a native of Siberia.

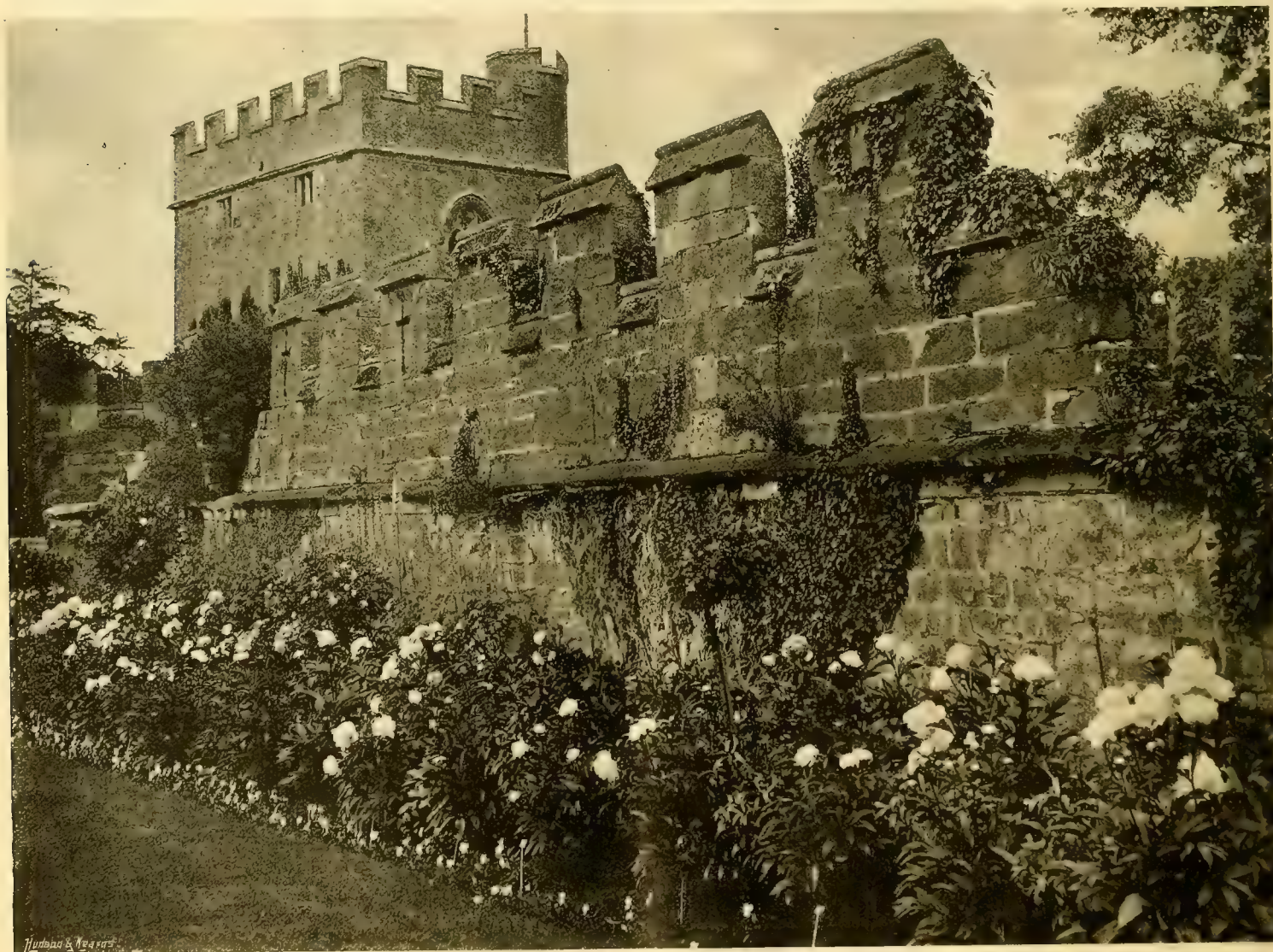
THE DWARF CAMPANULAS.

THE Campanulas that are by far the most interesting and desirable for garden use are those that come within the alpine and saxatile

group. Nearly all of them are of dwarf prostrate habit, much branched, and extremely floriferous; very bright and pretty things. Many of them are excellent wall plants, and nearly all are admirable in the rock garden. They are often used for edgings of raised beds and even replace grass on dry and arid slopes. Many amateurs like to have them in the grass, where some species will remain in flower for the greater part of the year; for this use the best are *C. rotundifolia* and *C. rhomboidea*.

It is especially in this category, so long in cultivation, that garden forms and varieties—rather than hybrids, which are comparatively rare among the Campanulas—have appeared, and it is just among these that it is most difficult to find one's way. The masses of correspondence, enquiries, and various articles that have been inserted in *THE GARDEN* for the last ten years on this subject shows how much the question interests the English horticultural public.

It is a fact that nowhere in the world are the Campanulas, so gracefully named Bell-flowers and Bluebells, so much grown and appreciated as in England. On the continent, I believe that it is Geneva, the birthplace of De Candolle, author of the "*Monographie des Campanulaceæ*" that has excelled in the cultivation of these plants, for Boissier grew

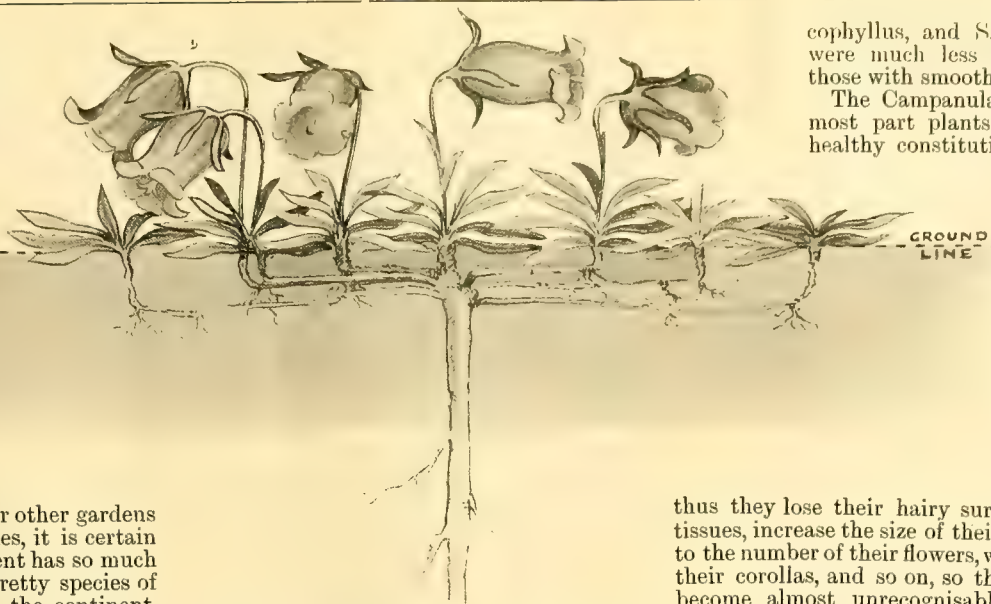
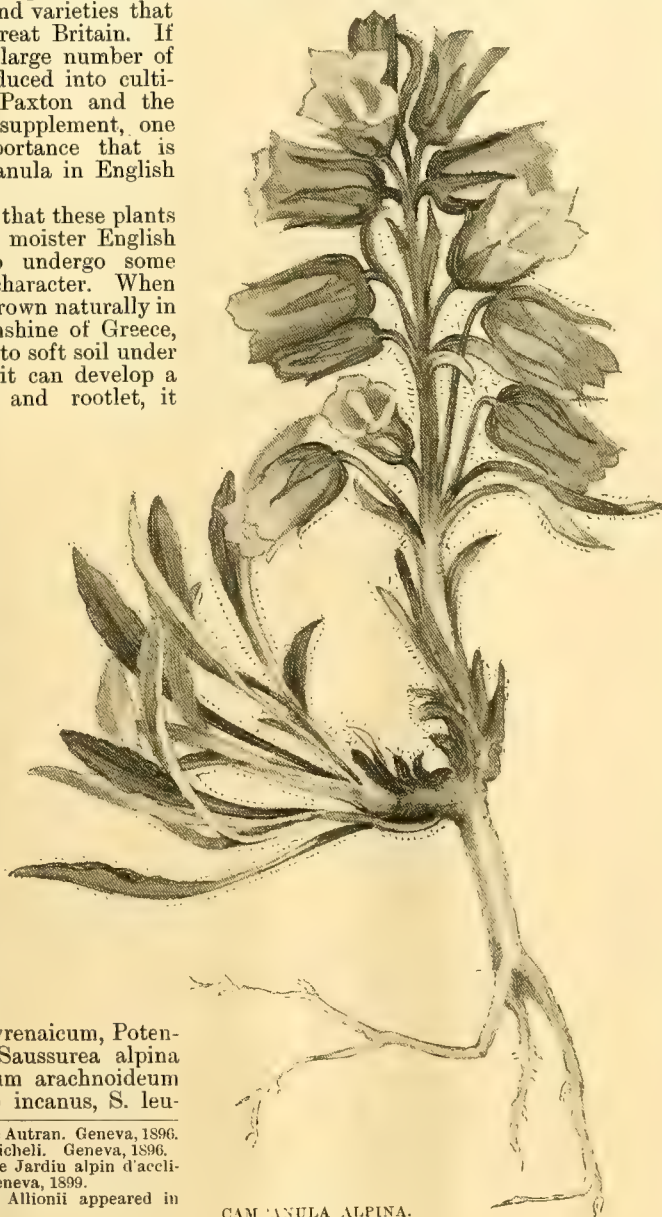


DOUBLE PÆONIES IN THE GARDEN OF LADY ALGERNON GORDON-LENNOX AT BROUGHTON CASTLE

fifty kinds at Valeyres,* and M. Micheli has nearly as many at the Chateau du Crest, most of them being in his index,† while our Jardin alpin d'acclimatation at Geneva has seventy - six (species and varieties) in its catalogue.‡ At "La Linnæa" we grow forty-five species, all very hardy, since they withstand the climate of Bourg St. Pierre, at an altitude of 5,360 feet. Of all the collections grown in botanical or other gardens that publish catalogues or indexes, it is certain that nowhere else on the continent has so much attention been given to these pretty species of the genus. I say advisedly on the continent, for already, many years ago, Paxton in his dictionary and its supplements gives a list of nearly two hundred species and varieties that were grown in gardens in Great Britain. If one thinks of the relatively large number of species that have been introduced into cultivation since the death of Paxton and the publication of his latest supplement, one becomes aware of the importance that is assigned to the genus *Campanula* in English gardens.

It can easily be understood that these plants grown for a long time in the moister English climate would be likely to undergo some modification of their general character. When a saxatile species which has grown naturally in rocky fissures in the full sunshine of Greece, Spain, or Italy is transferred to soft soil under an often cloudy sky, where it can develop a large quantity of radicle and rootlet, it necessarily changes some of its characteristics. It must be remembered that plants are provided with powers of special adaptation, and that in adapting themselves to a climate they will throw out of use those of their characters and organs that can no longer serve them.

In nearly all parts of England it has been observed that some plants with grey foliage either did not do well or that their leafy organs became greener, and finally lost their downy covering, and that among alpine plants such downy-leaved kinds as *Androsace helvetica* and *A. imbricata*, *Andryala lanata*, *Achillea nana*, *Artemisia glacialis*, *Mutellina* and *spicata*, *Draba tomentosa*, *Dryas lanata*, *Oxytropis pilosa*, *Papaver pyrenaicum*, *Potentilla frigida* and *P. nivea*, *Saussurea alpina* and *S. discolor*, *Sempervivum arachnoideum* and *S. tomentosum*, *Senecio incanus*, *S. leu-*

THE ROOTING SYSTEM OF *CAMPANULA ALLIONII*.*CAMPANULA ALPINA*.

cophyllus, and *S. uniflorus*, &c. were much less successful than those with smooth foliage.

The *Campanulas* being for the most part plants of strong and healthy constitution easily adapt themselves to new conditions, and one sees how, in order to live and increase, they assume other characters, their organs being modified to suit their needs;

thus they lose their hairy surface, relax their tissues, increase the size of their leaves, and add to the number of their flowers, while contracting their corollas, and so on, so that some species become almost unrecognisable. To such a degree is this the case that one day when visiting Miss Willmott's rich collection at Warley I found it difficult to recognise certain species of *Campanula*, the actual plants of which had come from my own garden.

But in addition to this, and the prime cause of the supreme confusion in collections, is the mania that possesses certain horticulturists for making new varieties and even *species*, that figure in their catalogues and are published in the horticultural press. When the slightest variation appears, not one due to natural variation but to the cultural conditions of captivity, we are suddenly bombarded with a novelty. There is no hesitation, there is both glory and money in it. Some of the German catalogues are the worst offenders, provoking the indignation of lovers of good sense and natural truth and beauty. The creation of floral horrors of plants dwarfed to squat, shrunken, and ball shapes and to tight stemless flower masses in which the blossoms are closely packed one against another into some form of monstrosity, deserves nothing but condemnation from those who love nature and her beautiful forms.

For my own part, I am too true an admirer of what is elegant and graceful to endure these monstrous forms, and prefer infinitely that which in his marvellous power the Supreme Creator has made to all these debased products of a grovelling industry.

I do not, however, condemn human work in horticulture, and I should never think of denying a place in my garden to the good garden flowers that are justly the pride of our times. But there is a limit that should be recognised, and this limit is often overstepped in hybridisation to the production of ugly things rather than the perfecting of flowers—the stars of the earth—*Terrestria sidera flores*.

I say this to unburden my soul, which swells with indignation at the sight of the pile of catalogues, announcing perfectly impossible *Campanulas*, with which my table is heaped. But now I will return to my subject and give the list of the alpine and saxatile *Campanulas* that are in cultivation, with their synonymy and culture.

Campanula Allionii § (Vill.) syns. *C. alpestris* (All.), *nana* (Lam.), *trilocularis* (Turra). Alps of Dauphiny, of the Cenis and of Piedmont, 6,000 feet to 7,000 feet. It is certainly in error that Nyman in his "Sylloge floræ europææ," page 73, indicates *C. Allionii* in the Alps of Lombardy. In fact, I believe it has never

* "Hortus Boissierianus," by Eugene Autran. Geneva, 1896.

† "Le Jardin du Crest," by Marc Micheli. Geneva, 1896.

‡ Catalogue of plants offered by the Jardin alpin d'acclimatation, 2, Rue Dancet, Geneva. Geneva, 1899.

§ A coloured plate of *Campanula Allionii* appeared in THE GARDEN, May 27, 1882.

been found there, the species belonging to the Western Alps, in which it occupies a restricted area only. It has no great power of self distribution, for though it forms large tufts it reproduces itself but little by seed. It occurs in slopes of loose ground and fallen earth and stones, never in heaps of stones alone, nor in turf slopes. It is unwilling to grow in company with invading grasses, and usually forms isolated colonies. It is certainly one of the handsomest and most truly decorative of alpine plants, its great violet bells, growing singly on their stalks and drooping towards the earth, having a great degree of beauty. The plant makes large tufts, numerous stolons radiating from the central root. This is a kind of long, thick fleshy pivot, that is thrust deep down among the stony debris in its search for coolness and nourishment. From this important and always solitary radical axis are thrown out the stolons furnished with rootlets.

These, however, would appear to be solely adventitious, for if one of these branches with its rootlets is separated and planted it is very difficult to get it to root. For successful transplantation it is necessary to secure the large central root, a matter of difficulty, for not only does it penetrate very deeply, but the whole plant is a bulky affair not convenient for carrying. However, as it yields, from August 15 onwards, a quantity of good seed, which easily germinates, it is much simplest to grow it from seed.

I have gone at some length into the way of growth and the radical system of *C. Allionii*, because it is the type all the *Campanulas* (*C. speciosa*, *C. cenisia*, &c.) that grow in these heaps of fallen debris, and it should be known so that the plant may be rightly grown. The foliage of *C. Allionii* is also peculiar, leaves short, with short grey hairs, collected at the top of the flowerless shoots and at the base of the flower stalk, narrow, blade-shaped, ciliated at the edges, those of the flower stalk narrowest. It flowers at Geneva in May and June, at La Linnea in July and August, and in its natural habitat in August and September, according to the altitude. Here at Geneva it is not at all easy to grow. The seedlings are very apt to decay. As soon as they have two or three leaves they must be pricked out with the utmost care, for if the roots receive the slightest injury or lose the smallest point they will rot away. They require a poor sandy soil mixed with stones that are not calcareous, and complete drainage. Their spreading and stoloniferous habit demands a considerable space. In a rock garden or border they must have a position in full exposure to the sun and a deep and stony place to root in. They dislike damp.

C. alpina (Jacq.) Alps of Austria, Lombardy and Transylvania from 6,000 feet to 7,000 feet. This species is nearly related to *C. barbata*, root spindle shaped, stalk short, leaves narrow lanceolate, thinly drawn out as a petiole, coarsely crenate, ciliated at the edges, gathered to a tuft as the base and diminishing as the flower stalk rises. Flower stalk short, 3 inches to 5 inches, set with flowers with peduncles of more or less length, drooping and pyramidally arranged, peduncles one flowered, corolla of moderate size (halfway between *barbata* and *pusilla*), colour deep violet. It flowers in the garden in May and June, wild from June to August. It is a lime-loving species, and should be grown in the limestone rock garden, in soil that is deep and rich in humus, such a soil as one-third loam, one-third leaf-mould, and one-third calcareous sand or finely broken lumps of limestone, and in full sun. Although this

species, always rather difficult to grow, yields but little seed, it cannot be increased in other ways.

H. CORREYON.

(To be continued.)

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

THE HORTICULTURAL COLLEGE AT SWANLEY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The governing body of the Horticultural College for Men and Women Students at Swanley, Kent, feel the time has come when public attention should be called to the work of the college. The college was started in 1889 by the acquisition of forty-three acres of land at Swanley, in Kent, situated only seventeen miles from London, in the midst of nursery gardens and fruit and poultry farms, with, consequently, special opportunities for varied training, both in the grounds and the surrounding gardens. The college comprises well-stocked gardens, orchards, and copses, fifteen glass houses for market gardening instruction, each 100 feet long, a dairy, working appliances for bee and poultry keeping, for jam making and the bottling of fruit, and a well-equipped microscopic botany room. For practice in private gardening a new range of stove, propagating, intermediate houses, and conservatory is nearing completion. The college commenced with men students only. In 1891 three women students entered their names—the first experiment of this kind in England or elsewhere. Since then the number of women has, gradually for the first few years, and subsequently rapidly, increased, till they now number sixty-nine students. That this experiment was warranted is proved by the following facts:—

Out of the twenty women and twelve men students who left last session, seventeen and ten respectively are now engaged in profitable gardening work. Of the total number of women (ninety-seven) who were in residence for one year and over since the opening of the women's branch, forty-nine are making a successful business in gardening, not including those at work in their own homes. Of the 231 men students who have passed through the college, over 50 per cent. are known to be holding gardening positions. The silver-gilt medal of the Royal Horticultural Society has been gained four times in six years by students of the college, and its scholarship has been awarded each time since its foundation to Swanley students. In the examination last summer of the same society, thirty-three out of the thirty-four who competed took a first-class, our head student gaining full marks. Numerous gold and silver medals, cups, and certificates have been won by the college for fruit, vegetables, and flowers at the Temple and other shows. The highest salary for our women gained so far is £100 a year with board and lodging, and that of men £300 a year.

From constant applications received for gardeners, both men and women, it is increasingly evident that the demand for our fully trained students is largely in excess of the present supply. To meet the growing need for accommodation, four boarding houses were added to the first one. To these, small unmade gardens were attached, affording valuable experience for the students by whom they were laid out.

Whilst the college serves as an admirable training institution for those who are desirous of finding remunerative occupation as gardeners, it also meets the wants of those, particularly women, who so frequently need healthful occupation combined with peaceful surroundings. There is, therefore, scope for a very large development of the useful work of the Swanley College. Its strictly educational side is testified to by the fact that the Berkshire, Essex, Kent, London, and Staffordshire County Councils all offer scholar-

ships, the first four counties having sent sixty scholars since 1889.

The college house—formerly Sir Edward Reed's residence (with its interesting Bessemer Saloon)—is only large enough to accommodate the men students, and the women are quartered in houses in the village. It is proposed, as soon as possible, to build a hall of residence for the special use of the women students, and, when funds admit, a new chemical laboratory and a library, both of which are much needed, and if any readers of your paper should feel sufficiently interested in the work now being carried on to wish to assist in any way there is ample opportunity for their doing so. The college is registered as a non-profit-making company by license of the Board of Trade, and its continuity is therefore assured, the general management being in the hands of a body of twelve directors, of whom three are nominated by the Kent County Council, whilst a resident principal directs the studies of the students and is responsible to the governing body.

The instruction is of so unique a kind, affording as it does a successful example of combining men and women in this important branch of education, that the management may perhaps be excused for asking that publicity may be given to its operations.

E. SIEVEKING, Hon. Secretary.

GRAFTING CLIANTHUS DAMPIERI.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The grafting of *Clianthus Dampieri* in order to overcome the difficulties of its successful cultivation, which is alluded to on page 407, is by no means a recent innovation, for as long ago as 1868 there were some good flowering examples in the Temperate house, at Kew, that were obtained by grafting young seedling plants of this *Clianthus* on some healthy little specimens of *Swainsona galeifolia*. They attracted much attention at the time, and the lead was followed in several instances, but it soon died out. At that period some cultivators failed in the grafting process owing to the scions being taken from flowering plants instead of young seedlings being employed. At Kew, *Clianthus puniceus* was also used as a stock, but the best results were obtained on the *Swainsona*. Grown in a suspended basket this *Clianthus* looked very thriving recently in the Temperate house at Kew, and possibly such a mode of treatment might be generally satisfactory. Apart from the normal form of this *Clianthus*, with its rich coloured blossoms, intensified by a large blackish blotch at the base of the standard, there is a variety—*Marginata*—which, however, I have not seen for some time. In this the keel of the flower is white, edged with scarlet, and when in good condition it forms a pleasing variation from the normal type.

H. P.

GROWING ONCOCYCLUS IRISES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Many of us besides "T. B. F." (page 367) would be glad to find the royal road to growing *Iris susiana*, and, in fact, *Oncocyclus Irises* generally.

As I understand it, these *Iris*, or most of them, when at home start into growth with the autumn rains, pass a quiet winter under a blanket of snow, push forward rapidly into leaf and flower in genial spring weather, and complete their cycle under a burning sun, by which they are thoroughly baked. These are not the conditions met with in an average season in Britain, and yet somehow the plants must be cheated into a belief that they have enjoyed them. How this is to be done depends upon circumstances. If "T. B. F." can refer to the back numbers of *THE GARDEN* he will do well to look up what was written by Herr Van Tubergen, jun., by Mr. Ewbank, and by Sir Michael Foster in the second volume for 1891, and also the letter of Herr Van Tubergen which appeared on July 31, 1897, and then work the thing out according to his climate and the means at his disposal. My efforts are on too small a scale and the results too uncertain to entitle me to be didactic, but whatever success I have met with



BORECOLE ALBINO.

(Shown by Messrs. Storrie and Storrie recently and given an award of merit.)

has been due to following Herr Van Tubergen's plan of annual lifting, and though the more natural plan of drying *in situ* may answer in some favoured spots, I am inclined to think that taking up will answer best in most parts of England. The main points are complete dryness during the resting period, late planting so as to avoid winter growth, and some protection from excessive wet both in winter and early spring. "A lusty winter, frosty but kindly," the plants would pull through. It is in chilly damp weather, with alternate frost and thaws, that they begin to go back, and finally come to the conclusion that "life is not worth living." By the way I should be much obliged if Mr. Ewbank would tell us whether he ever gave lifting a fair trial, and with what result; also if the bone-meal which he has recently advocated (page 347) is supplemented by the substratum of Ryde paving-stones and removal of the top soil in summer according to his former practice? After all, I am afraid that what answers in the Isle of Wight may be of small avail to me in North Notts.

The season of these Iris (I include *Regelia* with the *Oncocyclus*) is so short, and the failures so out of proportion to the successes, that each year I ask myself whether the game is worth the candle, and each year I find myself more a victim to their enchantment, and yet I wonder sometimes how much of the fascination is due to intrinsic merit and how much to the coy behaviour of the charmer. Why should there be more rejoicing over one of these dusky beauties than over the ninety and nine fair Iris that need no care?

Since the above was written I. *paradoxa* (Van Tubergen's variety) has flowered with me for the first time, and I am more hopelessly "gone" than ever.

Workson, Notts.

JAMES SNOW WHALL.

BORECOLE ALBINO.

EARLY last year we received some plants of a handsome variegated Borecole from Messrs. Storrie and Storrie, of Dundee. As received they were distinctly pretty things, heavily veined and marbled with ivory white. The specimens were planted in order to see what would be their further development, and to

enable us to say what would be their best use in gardens. The same plants this year (two placed rather near each other) presented an appearance so unusual and so highly ornamental that we had them photographed, with the result shown in the illustration. They looked like a bouquet of immense creamy white Roses, about 10 inches across, and it seemed, indeed, that here was a new and wonderful kind of Cabbage Rose. They were even better than those that were shown lately by Messrs. Storrie and Storrie at the Drill Hall. The photograph was done on April 22. This handsome plant would be a grand thing to group boldly with spring flowers, such as *Mertensia virginica* and pale yellow Wallflower, at a time when, be it remembered, a rather large thing with fresh foliage 3 feet high is almost unknown in the garden.

THE FERN GARDEN.

THE POLYPODIES.

THE COMMON POLYPODY (*POLYPODIUM VULGARE*.)

POLYPODIUM VULGARE is one of a big family, whose spore heaps are round, or nearly so, and quite destitute of a cover or indusium. The generic name implies, however, "many footed," and therefore refers to another feature altogether, viz., the creeping root-stock, which, however, is found in many genera of entirely distinct character, and therefore by itself gives no clue to species. In Great Britain we have four members of the family, viz., *P. vulgare* (the common Polypody), *P. dryopteris* (the Oak Fern), *P. phegopteris* (the Beech Fern), and *P. calcareum* (the Limestone Polypody). *P. alpestre*, so-called because its spores have no indusium, no fernist can accept as other than an *Athyrium*, especially as in many *Athyria* the indusium becomes almost or quite a nullity. Among these species *P. vulgare* stands absolutely distinct; its creeping root-stock is thick and fleshy; its fronds, simply

pinnate, are dark green and tough; its spore heaps and spores are large and yellow, and it is, finally, a thorough evergreen, while, on the other hand, the other three have twice-divided fronds of very delicate make and colour springing from dark, slender, stringy root-stocks; spore heaps and spores are small and dark-coloured, and finally, again, all three species are perfectly deciduous. Then, too, Nature has determined another great difference, since while the three of a kind have only given us two or three varieties, none of very marked character, the other, *P. vulgare*, has been most generous and donned the gayest and happiest garbs for the Fern hunter's delectation. In this respect, indeed, like others of our British Ferns, it has put all its exotic relatives to the blush by producing far more distinct and beautiful varieties than all the rest of the family together. It has even gone a step farther, and by lending some of its blood to its stately cousin, *P. aureum*, has given us *P. Schneiderii*, an edition of *P. v. elegantissimum* enlarged to the utmost, and a triumph of hybridisation. *P. vulgare* is found all over Great Britain; old walls, old trees, rocks, and hedgerows are its favourite habitats, and well-rotted leaf-mould its favourite soil. In culture it does best in large, well-drained, shallow pans filled with a loose leafy and peaty compost, into which the creeping rhizomes can embed themselves on the surface and ramble freely. It also does splendidly when installed in suspended wire baskets, displaying itself, perhaps, to the best possible advantage when so treated and not allowed to dry out. When once properly installed, the less the plant is disturbed the better the growth, and, under such circumstances, what this normally mediocre-looking plant can do in its varietal forms is simply astounding. It loves light and air, as we may judge by its haunts, and can even stand a fair amount of sun if drought be avoided.

Name.	Locality.	Finder or Reber and Date.	Description.
bifido-multifidum	Grange	Walmsley (1867)	Long, narrow fronds, bifid pinnae, broad crested head.
cambrium..	Many	Many	The plumose form of
c. Barrowii..	Withers-	Barrow	the species, splen-
	lack	(1874)	dently foliose, quite
c. Hadwinii..	Silverdale	Hadwin	barren, and the
		(1875)	pinnae divided into
c. Oakeleyae..	Raglan	Oakeley	long, overlapping
		(1868)	segments. The
c. Prestonii..	Yelland	Preston	three first-named
		(1871)	forms are distinct
			in detail, and by
			far the finest. Oak-
			leyae is a dwarf
			edition. All are
			gems. Hadwinii is
			distinguished by
			obtusely tipped seg-
			ments: Prestonii
			has them longer and
			very acute.
cornubiense (elegantissimum)	Cornwall..	Whyte and others (1867)	Very finely divided into linear segments; usually reverts erratically to normal in places. Fertile, but the improved forms were all, we believe, raised from divisions.
c. foliosum..	—	Clapham	More finely divided; apt to get coarse.
		(r.)	
c. Fowlerii..	—	Fowler (r.)	"
c. plumosa..	—	Barnes (r.)	Fronds broader and more foliose, but finely cut.
c. trichomanoides	—	Backhouse	Elegantissimum kept true by selection. Probably the best of all the section; a gem.
cristatum..	Co. Cork	Perry (1854)	Prettyly crested at all tips.
c. Morleyii..	Morley		Crested, but less markedly.
glomeratum.	Dorset	Mullins (1873)	Curiously and broadly ramose in all fronds, coarse.
grandiceps		Clewath.	Heavily tasselled, capitate head.
		(1876)	
g. Fox..	Grange	Mrs. Fox	Ditto. Finest form.
		(1868)	
g. Parker	Somerset..	Parker	Huge spreading, terminal crests, with crisp tips, often no pinnae; unique.
		(1854)	
Hutchinsonii..	Carmarthen	Hutchison (1889)	Resembles trichomanoides, with lax apex.

Name.	Locality.	Finder or Raiser and Date.	Description.
longipinnatum	Killarney	Drury ..	Very long, attenuate pinnules; frond 6 inches wide.
macrostachya	Co. Clare	O'Kelly ..	Very distinct and constant; upper third of frond undivided.
multifido elegantissimum	—	Clapham ..	A cross between cornubiense and bifidocristatum, i.e., a crested cornubiense.
omnilacerum	Milnthorpe	Aldren .. (1873)	Grand divided variety when in form, but very rarely seen so.
o. Bennett	Goodrich Castle	Bennett .. (1848)	Very fine; far better than last when in form.
o. superbum	Cornwall	Williams .. (1900)	A magnificent form, robust; pinnules 2 inches long.
pluma	Tintern	Cowburn .. (1861)	Intermediate between cambricum and pulcherrimum; slightly fertile.
pulcherrimum	Whitbarrow	Addison .. (1861)	A splendid tripinnatifid variety à la cambricum, but coarser and fertile.
ramosum	Hants.	Hillman .. (1860)	Branches repeatedly; nice form.
r. Watson	—	Watson ..	Twice "divided," bipinnatifid.
semilacerum	Several	Several ..	Twice "divided," bipinnatifid.
s. grande	Wicklow	(1862)	A magnificent form; fronds finely cut, circular, and huge, 12 inches across.
s. Loweii	Athlone	Col. Lowe ..	Dense imbricate.
s. robustum	Whitbarrow	Barnes .. (1863)	Splendid foliose form.
s. truncatum	Levens	J. M. Barnes .. (1863)	Frond and pinnate truncate and horned.
s. undulatum	—	—	Densely lobed.
serra	Lancs.	Wilson ..	Fine foliose, serrate form.

THE BEECH FERN (P. PHEGopteris) AND OAK FERN (P. DRYopteris).

The Beech Fern and Oak Fern, the latter especially, form charming specimens if grown in pans in loose leafy compost. The soft moonshiny green of the Oak Fern, coupled with its pretty habit, constitute it one of those rarities when even the veriest variety hunter hardly wishes to see other than it is in its native simplicity. It does splendidly in a Wardian case given plenty of light but no sun. There are no varieties. The Beech Fern has afforded one worth noting, viz.:

Name.	Locality.	Finder or Raiser.	Description.
multifidum	Burton	J. Jones ..	Slightly but constantly multifid at tips of fronds.

C. T. DRURY.

GARDENING OF THE WEEK.

INDOOR GARDEN.

GLOXINIAS.

SEEDLINGS at present in 2½-inch and 3-inch pots should be shifted into 4½-inch, which will be quite large enough. Under good treatment the plants will make a good display at the end of July and in August. The soil as before recommended, slightly rougher in texture and with a little more manure added, will answer well. A position of comparative shade with a moist atmosphere should be chosen, but a too frequent application of the syringe is apt to rot the leaves, and should be guarded against. The main batch will now be making a fine display, and any really good varieties duly noted should be increased by means of the leaves which, if removed and placed stem downwards around the sides of pans well filled up with sand and leaf-soil or peat in equal parts, will readily take root. Failing a proper propagating case, in which even with the best attention they are apt to "damp off," a position under Cucumber plants in a house makes successful rooting quarters.

BEGONIAS.

Amongst the number of plants which at this season claim the attention of the grower and gardener is the Begonia, and little more than a few Palms or some such subject is required in the

structure in which the Begonia is to flower. Such choice colours are now available that they supply all that is required to please the eye. In arranging the plants, which in most instances are just showing colour, care should be taken to make the various shades harmonise, that when finished the whole may present a pleasing spectacle. The largest of the double-flowered section will require slight support, and this should take the form of neatly-pointed sticks with a V-shaped notch at the point in which the stem snugly rests, which if left undisturbed will support the heaviest flowers. Should, however, the plants have to be taken to a flower show the stems should be secured to the stick by a piece of fine string, and it is further advised to lay a small pillow of cotton wool under the stem. Liberal feeding should at all times be given of farmyard manure, with a dash of pure guano alternately with Clay's Fertiliser added.

TREE CARNATIONS.

These will be making satisfactory growth, and care should be taken that they are kept absolutely clean, as the least check now will tell against them when the flowering season arrives. Moderate feeding until the pots are well filled with roots is recommended, and in syringing, especially the last for the day, which should be immediately before leaving work, use a little soot in the water.

EXOTIC FERNS.

Growth here will be rampant, and the frequent damping of paths, walls, &c., must be diligently attended to. Many plants having now overgrown the space allotted them at an earlier date, more room must necessarily be allowed. A few *Dracenas* and *Rex Begonias* dotted judiciously about give a varied appearance to the arrangement.

J. F. McLEOD.

Dorset House Gardens, Roehampton.

FRUIT GARDEN.

FORCING STRAWBERRIES.

No sooner is the latest batch of forced plants cleared out of the houses or pits than the work of preparation for another season commences. Every grower is glad to see the end of the forcing plants, as in June the heat causes red spider and other pests to increase. All forcing pits or frames should be well cleansed after the plants are removed, and, if possible, paint the wood work. But my advice now more closely concerns the plants for next season, and the earlier the runners can be secured the better. In our own case, needing fruit early, and some thousands of plants, we begin layering as early as possible in June—of course, my note is from a southerner's point of view—in the north the work would be later. Again, some of my readers may say there are no runners at the season named, and there are not many if the plants are fruited. We layer from plants that were disbudded, that is, had the flower trusses removed, and these give strong runners weeks in advance of fruiting plants.

MODES OF LAYERING.

As long as one secures a strong rooted layer any system may be adopted. We still layer into 3-inch pots, and find nothing better. The pots are not crocked, merely rough pieces of fibrous loam placed in the bottom, and the compost—good loam with a little spent Mushroom manure—mixed with it. This is made firm and the pots partially sunk between the rows of plants, leaving every other row free for watering. To get a good hold of the soil the layers are pegged down firmly, and are never allowed to become quite dry. Treated thus they root in a short time, and will be ready for their fruiting pots in four weeks' time. When rooted they may be detached from the plants and placed in the shade for a short time. Other modes of layering, such as by cutting turf into squares, and plunging between the rows of plants and pegging the runners into the turf; treated thus more care is needed when the plants are cut from the parents to prevent flagging. Good loam placed between the rows and the runners pegged into the new soil will save labour. Many good growers also

layer direct into the fruiting pots. I do not advise it by any means, as when the weather is wet the larger mass of soil gets sour. Worms are troublesome, and there are more losses than when the other systems noted are adopted.

STRAWBERRY FOR PERMANENT BEDS.

Much the same advice holds good as advised for pot culture. To obtain strong plants for planting out we have for years relied largely on one year old plants for our best fruit; plant as early as possible to obtain the best runners. Renew Strawberry quarters more frequently than is often done, and have a deep root run and plenty of food. Plants grown thus are less affected by soils and climatic influences. Another point in their culture is to give new quarters when making new beds. We have a poor thin soil to deal with, and do not plant in the same ground for some years. Land that is intended for new Strawberry quarters should be deeply dug, and if there is the least trace of wire worm the ground will need liberal applications of lime and soot. Few pests are worse than wire worm in Strawberry beds.

G. WYTHES.

Syon House Gardens, Brentford.

THE FLOWER GARDEN.

SPECIMEN CONIFERS.

THE young growth of many of these is exceptionally brittle, the leaders being liable to be broken off through birds settling on them or by high winds. The former source of damage may be prevented by tying to the main stem a small pointed Bamboo with its pointed end standing well above the new growth, as this prevents the birds from resting on the top of the tree. In spite of all precautions leaders get broken, but the damage may be to some extent repaired by selecting the strongest of the side growths, and tying it upright, when it becomes tough enough to withstand the pressure brought to bear in doing so. At the same time it is well to rub out a few of the strongest leads from the upper set of branches formed last year to prevent these from robbing the improvised leader too much; the weaker side-breaks will grow quite fast enough to keep the balance right, and in a year or two the loss of the lead will not be noticeable. One of the most brittle of the Conifers, and one to which the above remarks will apply most strongly is the lovely *Abies Engelmanni glauca*.

PYRETHRUMS.

By cutting all the flowering stems away quite down to the base, directly the flowers have faded, most of the varieties of *Pyrethrum roseum* may be induced to give a good second crop of most useful flowers during the autumn months. This cutting down should not be postponed a day longer than is necessary, and when the plants have again commenced to grow they may be helped by watering in dry weather and by mulching with a coating of good short manure. Where cut flowers are much in request the slight labour entailed by this will be well repaid.

TRAILING PLANTS.

Even in gardens where no pretence to growing plants in a formal way is made, it is necessary to peg down the earliest made shoots of *Verbenas*, *Ivy-leaved Geraniums*, and things of that sort to protect them from being broken or twisted with the wind, and this pegging is in many cases a direct assistance in culture, for many of the plants root afresh from joints of shoots that are brought into direct contact with the soil. After being pegged over once or twice they may be allowed to grow at will, and will then take on a natural appearance.

CLIPPING EVERGREENS.

Where Evergreens, such as *Box*, *Yew*, and the like are used as hedges, or as solitary specimens clipped into shape, this will be a good time to commence the summer clipping. *Box* may safely be clipped fairly hard now, as the new growth will have time to ripen before winter, but any subsequent operations should be confined to keeping stronger growths within bounds, for in cold districts new growth made late in the year often suffers badly in winter.

SOWING SEEDS.

The dry weather has been very much against seed sowing operations. Many hardy annuals which have been recommended for sowing earlier may still be put in, and among other things that should not be overlooked are Wallflowers and Aquilegias; the improvements in the latter make it necessary to renew the stock frequently in order to be up to date in the way of variety. Wallflowers sown year after year on the same plot make the ground sick, more especially where there is a deficiency of lime, and a change of plot both for seed sowing and for planting to flower should be given whenever there is a falling off in the way the plants grow, and they should never follow any of the Brassica tribe if this can be avoided.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

ORCHIDS.

CATTLEYS.

THE Cattleyas form a magnificent genus, both on account of the size of the flowers and also from their rich and varied colours. In addition to these qualifications, they are, with few exceptions, easy to manage. The plants require a moist atmosphere and plenty of water at the root during the growing season. The temperature should then range from 65° to 70° by night and from 70° to 75° by day, rising considerably above these figures by sun heat.

The plants, though lovers of light, should be well shaded, except for a short time during the morning and evening, when the sun is not very powerful. Air should be carefully admitted by top and bottom ventilators on all favourable occasions, when the temperature has risen to the desired degree. The majority of Cattleyas may be repotted when commencing to grow, and the operation should be performed as with other epiphytal Orchids. Equal proportions of peat and sphagnum moss should be used as compost, and not too much placed about their roots. As soon as the plants have finished growth they will then have a long season of rest, and during that time a cooler temperature is necessary and less water should be applied to the roots, but should not be withheld so as to cause shrivelling of the pseudo-bulbs. The temperature during spring and autumn should be from 60° to 65° by night and from 65° to 70° by day, during winter 60° by night and 65° by day.

Cattleya gigas, as the name indicates, is the largest and one of the most beautiful. Though rather a shy bloomer it is easy to cultivate, and should be grown in pans or baskets suspended from the roof at the warmest end of the house, and in the very lightest position obtainable, or in pots stood on stages which will admit of their being in a similar position. As the time of starting into growth varies considerably with different species so also as a matter of course will the season of rest vary also. C. gigas, C. gaskelliana, C. schilleriana, and C. Warnerii commence to grow early in the season, and in consequence will have their new pseudo-bulbs fully developed when many others are only commencing to grow. As soon as these species have finished growth place them at the coolest, driest, and airiest part of the house and keep them somewhat drier at the root. It is then a good time to repot any of the above species that may require it, as it is then the plants emit new roots from the base of the newly-developed pseudo-bulb. Cattleya gigas and other species that finish their growth early will frequently again commence to grow, but this should be avoided if possible, and can in a measure be prevented by keeping the plants drier at the roots and in a cooler temperature and drier atmosphere. When this cannot be prevented, and the plants do again start growing, they should have every encouragement to develop and mature a large pseudo-bulb.

Cattleya superba is a very handsome dwarf-growing species, requiring more heat and moisture than the majority of Cattleyas; it should be grown in pans or baskets suspended from the roof, in the stove or hottest house, where it should remain all the year. It requires an abundance of water at the root during the growing season, and when

resting must not become very dry, for if allowed to get into a very shrivelled condition it is not easy to restore into a plump and healthy state.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, N.

INSECT PESTS.

THE ASPARAGUS BEETLE.

(CRIOCERIS ASPARAGI.)

ASPARAGUS plants are often considerably injured by the grubs of this insect, which feed upon the foliage, and therefore weaken the plants. The beetles lay their eggs on the young shoots, the grubs are hatched in the course of about a week or ten days, and at once begin to feed on the "grass." The best way to destroy this insect is by spraying the plants with Paris green or paraffin emulsion. The shoots on



THE ASPARAGUS BEETLE.

1. Asparagus beetle enlarged. 2. Grub enlarged. 3. Egg enlarged. 4. Sprig of Asparagus showing eggs and grubs natural size.

which the grubs are feeding may be cut off and placed in a basket, to be afterwards burnt or crushed. When Asparagus is being cut, a good look-out should be kept for the beetles, which will then be just beginning to make their appearance, or later on they can easily be shaken off the plants into an open umbrella. At the least alarm they fall to the ground feigning to be dead, and lying quite motionless. The eggs may easily be found after a little practice, as they are of a dark shining brown colour, skittle shaped, about one-twentieth of an inch in length, and stand out at right angles to the leaves. The grubs, when they have attained their full size, are about three-eighths of an inch in length, their heads black, and their bodies of a greenish slate colour, and gradually increase in size until quite close to the tail. The beetle is a quarter of an inch long, the head and legs are bluish black, the forebody reddish brown in colour, and the wing cases are yellow. When closed there is a bluish black central stripe, and there are three spots of the same colour on each wing case. The chrysalis is formed in the ground within a thin cocoon, and there are probably two or three generations in the course of the year; but

as beetles, eggs, and grubs are all found on the plants at the same time, it is almost impossible to be certain on this point.

BULBOUS PLANTS IN CALIFORNIA.

IN the autumn of 1900 California had early and abundant rains, followed by weather phenomenally warm and open. About Christmas a change for the colder came, and January, February, and early March were as severe as the early winter had been warm. The hardiness of many things was severely tested, and in all gardens many half-hardy plants which had survived milder winters were killed.

March brought warmer weather, and deciduous fruits, which were advanced by the warm autumn, were hurried into bloom, only to be caught by an unusually heavy frost in April. The total crop of California will be from one-fourth that of 1900 to a total failure; Pears likewise. All deciduous fruits will bear lightly this year, and Grapes were somewhat injured. On the other hand, Citrus fruits are not hurt, and the Olive crop, now one of great value, will be good. Seasonable rains failed in March and April, but came in May in time for earliest vegetables.

My garden at Lyons Valley shows the effect of the severe frost and drought in places, yet generally the growth is good. It is my opinion that the bulbous plants are better for a cold close winter and late spring.

The Narcissus were in full flower in early April and were very fine. I should have much liked to challenge comparisons of the best with your English prize flowers, yet the soil was not what your best growers recommended. They were in very deep loose soil, which is altogether too dry in summer, but maintains a good degree of moisture in winter when the Narcissus is growing here.

All of the section of Narcissi do well, and some of the all-white trumpets, which I am told are not too vigorous with you, are as healthy apparently as any.

The Erythroniums were at their best just before the heavy frost of April. I grow only the Pacific Coast species, and the growth was a distinct advance on that of 1900, good as it was. Perhaps the most pleasing show to an English flower-lover would have been my beds containing about one hundred thousand of the pretty cream-coloured E. giganteum, all a mass of bloom, E. revolutum var. Watsonii, E. revolutum Johnsonii, the type E. revolutum, E. Hartwegii, E. citrinum, and E. Hendersonii were alike fine, but I believe that of all the Erythroniums I have grown the finest are certain plants of a strain midway between E. giganteum and E. revolutum Watsonii. There are occasional plants in which the ground colour is very pale cream (almost white) marked at the base with rich maroon in a way suggestive of a Tigrida. The leaves are richly mottled, the flowers bold, well recurved, and of a good substance, several on a stalk. A few years of selection to fix this variation will give the most charming of all Dog's-tooth Violets.

I notice in your issue of May 4 that Erythronium giganteum var. Hartwegii was given an award of merit on April 23 by the Royal Horticultural Society. E. Hartwegii should not be confused with E. giganteum, for its sessile umbels and habit of off-setting make it perhaps the most distinct of Pacific Coast species. Observation in my special line convinces me that the line between species is nowhere sharply defined, but that they merge into each other by imperceptible gradations.

Viewed from this standpoint it is a simple matter of convenience whether we make genera, species, or varieties, and certainly where the difference can be readily defined a binomial is more convenient than a trinomial.

This is the first season that I have had *Camassias* in variety at the Lyons Valley mountain garden. At the upper edge of the garden a spring flows through the winter and early spring. Below it is a chalky soil; in the centre of the garden a second spring is perennial, and below this is a loose fluffy soil, rich in vegetable matter and quite sandy. *Camassias* did surprisingly well in both locations.

Of *Camassia Leichtlinii*, I had five distinct strains, and there are doubtless others. A stalk of *C. Leichtlinii alba* (which, by the way, is cream-coloured) was 40 inches high, with about one hundred buds and blossoms, and others were not far behind. The *C. Leichtlinii* varieties are in shades varying from blue to deep purple and cream. The cream-coloured form seems to have been first described, and would properly be the type of the species, and the blue and purple forms variations, although I imagine the common nomenclature would better please gardeners.

Of *Camassia esculenta* I have seven variations, each indigenous to some portion of the Pacific Coast of North America. The habit varies considerably, while the colour ranges from pale to deep blue and through the shades of purple, with, of course, white sports. *Camassia Leichtlinii* has a nearly regular flower, and the wilted segments twist closely about the capsule, while in *C. esculenta* the flower is decidedly irregular and the faded petals fall down in a straggling way.

The plant which I have introduced as *Camassia montana* is a form of *C. Leichtlinii* growing 12 inches to 18 inches high, flowering late and with flowers of a clear pale blue. Its native home is in wet meadows in the high range east of Ukiah, California. It is very pretty, but not as good as forms of *C. Leichtlinii* from Oregon and Washington, U.S.A.

Captain Reid's notes on *Lilium Parryi* tempt me to anticipate a fuller treatment of the subject by a few notes on the culture of *L. Parryi*. I once wrote to a collector who had sent me some particularly fine bulbs of *L. Parryi* to learn the exact conditions under which they grew in a deep alluvial deposit of sand, grit, charcoal, and leaf-mould close to running water. Captain Reid very closely approximated the natural soil and he was fortunate in not making a bog of his bog garden. *Lilium Parryi* is not a bog Lily at all, and while it might be found growing beside a bog its natural tastes are otherwise, and the highest degree of success will never be attained in a bog. It is mostly found in an altitude of from 7,000 feet to 10,000 feet in the San Bernardino range of Southern California, where it grows along the banks of living streams and in alpine meadows, in a soil about two-thirds granite sand and one-third peat or mould. In such situations it is usually a one to three-flowered species, and it is where a chance alluvial deposit gives liberal conditions that the large plants are found. As described and figured *L. Parryi* is spotted with maroon, but I find many of the flowers are unspotted.

Ukiah, California.

CARL PURDY.

EARLY STRAWBERRIES.

A GOOD early crop of Strawberries is a valuable asset in most gardens, for from the time the supply of fruit from plants grown under glass is exhausted until Strawberries are plentiful out of doors there is invariably a serious diminution in the gatherings, and often a complete break. There are two points to be observed if the critical period in the Strawberry season is to be safely fided over; the one is to have a suitable stock of good early varieties out of doors; and the other to have a cold frame planted with strong plants. These latter and the early outdoor varieties should, if they are both successfully treated, make ends meet.

First a few words as to the occupants of the cold frame. The soil in this must be well prepared the previous August by digging in plenty of farmyard manure, for the Strawberry delights in good rich soil. Make the latter firm before planting; well-rooted layers six or eight weeks old are the best plants to use for filling the cold pit, and it is an advantage to have them planted in September, so that they may have an opportunity of getting hold of the soil before winter sets in. Unless they are well established in the autumn they will never

becoming hard, as Strawberries are then apt to do. I have found no two varieties better for this purpose than Royal Sovereign and La Grosse Sucrée. Both bear remarkably good crops, and both are handsome and palatable fruits.

This system of culture is quite simple, and besides being valuable in bridging over the time between the finish of the indoor crop and the commencement of the outdoor one, it is one that might with great advantage be practised by amateurs and others who have not the accommodation for cultivating forced Strawberries in glass houses. If the soil is made firm before planting, and has been well enriched, the plants made firm also, the frame kept quite cool, the flowers protected from frost, &c., a good crop of fruit may invariably be expected.

Much can also be done to hasten the ripening of the early Strawberries out of doors, but of various methods tried nothing gives such satisfactory results as a narrow south border at the foot of a high garden wall. If this can be secured there should not be much danger of obtaining a good crop of fruits early in June, that is if the weather is not exceptionally untoward. It is surprising how much benefit the plants derive, so far as the early



STRAWBERRY ROYAL SOVEREIGN.

produce a satisfactory crop of fruit the following spring. Allow 12 inches between each plant in the rows, and place the rows 2 feet apart. Attend to the plants with care for a week or two, watering them carefully and shading if necessary. Keep the frame perfectly cold throughout winter, and, except during very rough and wet or snowy weather, allow the sashes to remain off altogether. Weeds will quickly make their appearance when the weather becomes warmer, and these, together with all runners (unless required), should be cleared away. If a good number of Strawberry plants are forced under glass, giving a supply of fruit until early June, it will not be necessary to hasten the flowering of the plants in the cold frame at all.

All that is necessary is to pull on the sashes as soon as the flower scapes begin to push up. Give all the air possible consistent with the proper protection of the flowers from cold rain and wind, and they will set quite freely. If after the fruits are forward it is found necessary to hasten their ripening somewhat, this can easily be done by closing the frame early in the afternoon when the sun is still shining upon it. Well syringe the fruits daily when they are swelling; moisture at this stage of growth appears to assist in their development very considerably, and prevents their

production of fruit is concerned, from such a situation. When the flowers make their appearance, provision should be made for rolling a canvas over them at night; a covering of this kind will protect the blooms from a good deal of frost.

The easiest method of arrangement is to fix a few short stakes, about 1 foot from the ground, at the top and bottom of the border, and connect them with thin pieces of wood; upon these the canvas can quickly be rolled in the evening and removed in the morning.

A good mulch applied earlier in the year will have a very beneficial effect upon the crop of fruit when the Strawberries are well formed. To some extent it also protects the plants, and it certainly assists in forwarding them by keeping the roots and their surroundings warm. Noble is a variety that with me will turn in earlier than any other. It fruits well, bearing very good crops, although the flavour is none of the best. Royal Sovereign is undoubtedly the one to rely upon for an early gathering out of doors. Keen's Seedling may also be planted with advantage as an early variety, and these could not be followed by a better Strawberry than La Grosse Sucrée.

A. P. H.

NURSERY GARDENS.

MR. H. J. JONES, LEWISHAM.

IT is for Chrysanthemums that the Ryecroft Nursery is best known, yet Mr. H. J. Jones does not confine his attention to these alone. Many other plants are quite as well grown, and the houses which during the winter are filled with Chrysanthemums were at the time of our visit bright with Begonias, Pelargoniums, Cannas, and other useful stock. In fact, there is always something interesting to be seen. Just now

THE PELARGONIUMS

are the most interesting, all sections being well represented. Taking the show and regal varieties, these occupy one large span house, a selection of upwards of 100 of the best and most useful varieties being grown, and these include some very promising new varieties. We noted the following as being among the best:—F. Kellaway, deep rosy cerise, with a dark blotch on upper petals and a distinct light heliotrope shaded margin; Lord Kitchener, bright crimson with a dark blotch on upper petals; Lady Primrose, rose with a shading of mauve and dark upper petals; White Fanny Edden, pure white, with a faint blotch of pink on upper petals; the flowers of this are not large, but it is very free, and the flowers stand up well. Of those of a pink shade, Mrs. Mauser, Mrs. Hemsley, and Miss Jessie Cottee are good. Of older varieties, the best whites are Snowflake, Princess Alexandra, Queen of Whites, and Eucharis, the last-named a remarkably fine variety, and well adapted for cutting, having very long flower stalks. Among those of a mauve or violet shade Viola is one of the best. Hamlet et Ophelia and Mrs. H. M. Stanley are worthy of note. Mme. Thibaut, a variety with large full flowers of a rosy pink on a white ground, was the first of a very distinct type, with crimped or corrugated petals, and there are now some varieties of various shades, Albert Victor, Duchess of Fife, and Duke of Albany being good examples. The variety Dr. Masters represents another very distinct type, and though the first of its class it is still one of the best. Persimmon is another of this type with very bright crimson-scarlet flowers. Unfortunately, this type does not always flower well, but when seen at their best they are very fine. Many other sorts are worthy of note, but space forbids.

IVY-LEAVED PELARGONIUMS.

About sixty of the double and semi-double varieties are grown, and these include such fine sorts as Leopard, which recently received an award of merit from the Royal Horticultural Society; Baden Powell, large flowers of a soft mauve; Mrs. Hawley, bright cerise, fine full double flowers, which promises to prove a good market variety; Mrs. J. G. Day, bright scarlet; Kate Wilson, white; Mrs. H. J. Jones, a curious variety with fringed petals; Ryecroft Surprise, and Achievement, both of which originated with Mr. Jones, are among the best of this class.

ZONALS.

Nearly 300 varieties of these are grown, and include almost every conceivable shade of colour, both in singles and doubles, all the newest continental and English varieties being grown. Fire Dragon, the variety from Raspail, with Cactus-like flowers, will undoubtedly become a standard variety; Bertha de Presilly, soft flesh-pink, is of great promise, also Fleure de Rose, a deeper shade of pink; Fraicheur, white with pink margin to petals, a good type of a Picotee. In the singles, there are many fine additions to this distinct section.

BEGONIAS.

These are now a great feature, and one long house is filled with the tuberous kinds, which represent the single and double varieties in all shades of colour, from the purest white to deep crimson flowers of enormous size, standing up well above the rich green foliage. The Picotee-edged doubles are remarkable for the even petals and well-defined margins. Of the double varieties we

noted Purity, Dr. Shaw, H. A. Needs, D. B. Crane, Mrs. Baxter, Miss Ellen Terry, Mrs. W. H. Webb, and H. J. Jones. Many of the unnamed seedlings are also of great promise. The single varieties consist chiefly of selected seedlings, and it would seem almost impossible to make further advance, almost every shade of colour being seen in large erect flowers, the orange, amber, and apricot shades being worthy of note. There are also striped and spotted varieties, and the whites with pink edges to the petals are very fine. The plants grown in pots are chiefly for saving seed from, and thousands of seedlings are raised annually. These are planted in the open ground, and as they flower selections are made, and any not up to the standard of quality are weeded out. Some improvement is made each year, but even to keep up a stock of standard quality it requires great care in seeding and propagating.

CANNAS.

Of these upwards of 100 varieties are grown, being a selection of the best of the Crozy section and those termed Orchid-flowering, but these are hardly far enough advanced to note, but a new American variety, Miss Kate Gray, was well in flower, and is one of the finest of the Orchid-flowering section we have seen, the flowers being of great size and of a rich bronzy crimson with a faint marking of yellow; it is one of those peculiar mixtures of crimson, brown, and yellow so difficult to describe.

A number of other subjects might be referred to if space would allow.

Forthcoming events.—June 26, National Rose Society and Richmond Horticultural at Richmond; June 29, Windsor and Eton Rose Show in Eton College grounds; Canterbury Rose Show; July 2, Royal Horticultural Society's fortnightly meeting at the Drill Hall, Westminster; Hereford Rose Show; July 2 and 3, Southampton Show.

Woodbridge Horticultural Society.—The Jubilee Show will be held, by kind permission of Major R. J. Cartheir, in the Woodbridge Abbey grounds on Thursday, July 11. A leaflet before us says that no trouble or expense will be spared to make the Jubilee Show the most attractive one yet held, and promises to become one of the chief events in the county.

The Millwall Window Gardening Society is fairly launched, so much so that even at this early stage there is a membership of forty. The forthcoming competitions are being eagerly supported, and all that is further required is for friends to send plants, bulbs, seeds, &c., for the encouragement of the poor people. The Rev. Richard Free, St. Cuthbert's, Millwall, London, will be very pleased of any help in this way for the society.

June weather near Dundee.—Since the 10th inst. we have experienced bitter cold winds from the west and north-west, blowing a perfect gale on some days. On the night of the 12th the Potatoes were all blackened by frost; 13th, freezing point; 17th, the thermometer registered 4° of frost. At the time of writing there is a very strong north-west wind blowing. This, combined with a hot sun, is withering up the stock and ruining the fruit prospects.—H. H., *The Nurseries, Downfield.*

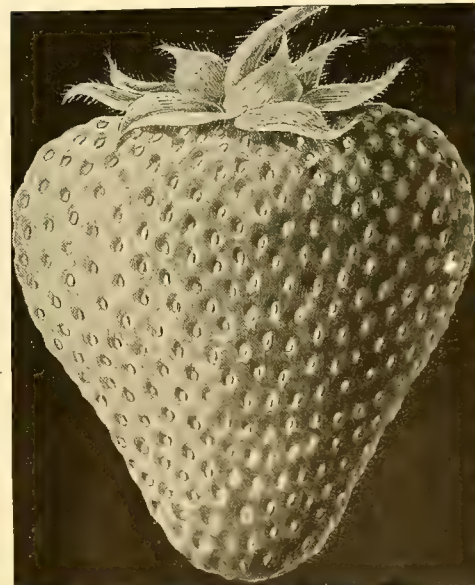
Annual excursion of the Horticultural Club.—The annual excursion of the members of the Horticultural Club is fixed for July 17, when it is proposed to visit Mr. George Paul's Rose Nurseries at Cheshunt, Mr. Thomas Rochford's Nurseries at Broxbourne, drive through the Wormley and Broxbourne Woods to Panshanger, the seat of Earl Cowper, and dine in the evening at Hertford. Further information will be announced as soon as possible. The hon. secretary is the Rev. H. Honeywood D'ombrain, and, as is well known, the headquarters of the club are the Hotel Windsor, Victoria Street, S.W.

An exhibition of hardy flowers.—The corridor adjoining the large conservatory in the Royal Botanic Garden, Regent's Park, is for the time being transformed into a house of flowers,

Messrs. Barr and Sons, King Street, Covent Garden, have brought in great variety selections from their hardy flowers, and also some of the quaint little Japanese trees, of which they now make a speciality. The hardy flowers are arranged along one side of the corridor, and add much colour and brightness to this usually sombre place. Double and single Paeonies, Delphiniums, Iceland Poppies, Lychnis, Spanish Irises, Saxifrages in great variety, hardy Cypripediums, as well as several beautiful kinds of Marliac's Water Lilies were included in this interesting exhibition. Amongst the curiously dwarfed Japanese trees, besides numerous conifers, there are specimens of *Crataegus cuneata* in flower. These tiny plants are about ten years old, and are flowering quite freely. It is stated that even Peaches and Cherries are to be obtained in Japan dwarfed in this manner, and that they will not only flower but fruit. Messrs. Barr's exhibit is altogether one of exceptional interest.

Cassell's "Dictionary of Gardening."—The bright, interesting, and well-produced illustrations, together with the clear and concise way in which information is given about plants and their culture, should ensure success for this new publication. It will commend itself particularly to the amateur, for the cultural details are concise and plainly worded. This, in fact, is one of the great merits of this "Dictionary of Gardening." With the first part there is given away a coloured plate of Carnations. The work will be completed in about twenty monthly parts, price 7d. each, and will contain over 1,000 illustrations, reproduced from photographs. Several more coloured plates are also promised; it is edited by Mr. W. P. Wright.

A valuable new Strawberry.—At the meeting of the fruit committee of the Royal Horticultural Society, on Tuesday, Messrs. Laxton Brothers, Bedford, sent a beautiful new Strawberry, The Laxton, and it was worthily given a first-class certificate. The firm are to be congratulated upon raising such a fine variety. Many new Strawberries have been introduced of late years and brought before the committee, but we do not remember one so promising. This is the result of crossing Royal Sovereign with Sir Joseph Paxton, and it will be the Strawberry of the future. Every fruit grower knows the splendid qualities of the Paxton, a fruit that held sway for many years, both for forcing and for the midseason supply, and its good qualities for travelling made it a special favourite. The other parent, the Royal Sovereign, needs no commendation, as its excellence is well known. To show my confidence in the Royal Sovereign, also one of Messrs. Laxton's seedlings, I may say out of many thousands forced



STRAWBERRY THE LAXTON.

and grown annually in the open this has pushed all others on one side on account of its excellence. The Laxton has now improved Royal Sovereign, and fruits of the older variety were staged alongside of the new, and certainly everyone was pleased to see such fruit, as the newer one appears to be a Paxton in shape but much larger, also a firmer fruit, and of splendid flavour. Now the latter is a strong point, and one that carries more weight than mere size and shape; it is a darker fruit and heavy, and what is so important to those who have a poor soil, the new Laxton grows vigorously, having thick glossy foliage and a long leaf stalk; the latter is advantageous, as in late spring when the plant is in bloom the abundant leafage protects the flowers. I always notice that a strong grower is a better grower in thin soils and stands our variable winters better. As a forcer, Messrs. Laxton think the new variety has a great future. They say it sets so freely. The firm staged a very nice lot of the new Laxton at the recent Temple show, and the plants were laden with fruits. I have never seen a heavier cropper, and it will certainly become a great market variety. The illustration shows the shape of this fine fruit. I may add the award given by the fruit committee was unanimous. —G. WYTHES.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

THE Drill Hall, Westminster, was on Tuesday last well filled with bright and interesting plants, the beautiful display being largely contributed to by Peonies and Roses. Orchids were barely represented at all, and if it had not been for several seedling Melons, which are invariably plentifully shown at this season and onwards, the same might almost be said of the exhibits before the fruit committee. It was, however, an excellent floral display, comprising many of the best flowers now in season.

ORCHID COMMITTEE.

Present: Messrs. Harry J. Veitch (chairman), James O'Brien, De B. Crawshaw, H. M. Pollett, H. Ballantine, E. Hill, H. T. Pitt, J. Wilson Potter, W. H. Young, H. J. Chapman, Frank A. Rehder, H. Little, H. A. Tracy, and James Douglas.

Messrs. B. S. Williams, Upper Holloway, N., exhibited a small group of Orchids, the only exhibit of any extent before this committee, comprising *Lælia grandis tenebrosa*, *Lælio-Cattleya canhamiana*, *L.-C. hippolyta*, *L.-C. Edouard André*, *Dendrobium dalhousianum*, *Anguloa Clowesi*, &c. Silver Banksian medal.

Mr. A. J. Keeling, High View Nursery, Cottesley, Bingley, sent *Lælia* × *Diana* (*L. Dayana* × *L. purpurata rosea*). *Cypripedium callosum* Sandere was shown by J. Gurney Fowler, Esq., Gleadlands, South Woodford (gardener, Mr. J. Davis). *Pholidota obovata* was exhibited by A. H. Smea, Esq., The Grange, Hackbridge (gardener, Mr. Humphreys).

J. Bradshaw, Esq., The Grange, Southgate (gardener, Mr. George Whiteledge), sent *L.-C. C. G. Roehling* (*L. purpurata* × *C. gaskelliana*). *C. gowerianum magnificum* and *C. laurenceanum nigrum* were shown by Fred Hardy, Esq., C. J. Lucas, Esq., Warnham Court, Horsham (gardener, Mr. Duncan), sent *O. lucasianum*. Reginald Young, Esq., Sefton Park, Liverpool, sent *Odontoglossum nevium majus*, said by the committee to be *O. gloriosum albidum*.

FRUIT COMMITTEE.

Present: Messrs. James Cheal, Henry Esling, H. Markham, S. Mortimer, Alexander Dean, E. Beckett, George Kelf, M. Gleeson, A. Ward, F. L. Lane, J. Smith, George Wythes, W. Poupard, James H. Veitch, H. Balderson, H. Somers Rivers, and W. Bates.

Mrs. McCreagh Thornhill, Stanton-in-Peak, Bakewell (gardener, Mr. G. Harvey), showed several dishes of very fine Lemons. Cultural commendation. A seedling Melon, Lea Park Seedling, was shown by Whittaker Wright, Esq., Lea Park, Godalming (gardener, Mr. A. Cattermole). Three forms were exhibited, two of which were white flesh, the other a green flesh. E. A. Hambro, Esq., Hayes Place, Hayes, Kent (gardener, Mr. William Beale), sent Melon Conquering Hero, obtained from Hero of Lockinge × Conqueror of Europe. Melon Royal Edward was shown by Captain Carstairs, Welford Park, Newbury, also Melon Baden Powell.

Melon The King was exhibited by Mr. S. Mortimer, Farnham, Surrey; Hero of Lockinge and Sutton's Scarlet were the parents. Melons Regina and Golden Treasure were also sent by Mr. Mortimer, as well as Melon Incomparable, a cross between Hero of Lockinge and Sutton's Scarlet.

Cucumber "Wallace's Strain" was exhibited by Mrs. J. Wallace, North Runcion, King's Lynn.

A box of very fine brown Turkey Figs was sent by Lady A. Tate, Streatham Common (gardener, Mr. W. Howe). Silver Banksian medal.

Splendid Asparagus came from Mr. A. J. Harwood, fruit and Asparagus grower, Colchester. Cultural commendation.

FLORAL COMMITTEE.

Present: Mr. Charles E. Shea (in the chair), and Messrs. C. T. Drury, H. B. May, R. Dean, J. W. Barr, J. Jennings, N. F. Barnes, W. Howe, W. Bain, C. R. Fielder, H. Selfe

Leonard, J. D. Pawle, Charles Dixon, E. T. Cook, W. P. Thomson, Charles E. Pearson, H. J. Jones, J. H. Fitt, E. H. Jenkins, W. J. James, George Paul, Charles Black, Edward Mawley, Rev. F. Page Roberts, and James Hudson.

The society's gold medal on this occasion was awarded to Messrs. James Veitch and Sons, Limited, Chelsea, for a superb table of *Gloxinias*, flanked by a pretty lot of the hybrid *Streptocarpus*, for which the firm is deservedly famed, and backed by pretty flowering examples of *Solanum Wendlandi*. The first-named were in the highest state of excellence, representing the finest strains of these flowers, and, we need scarcely add, the best cultivation. The same firm showed a very fine group of *Peonies*, and in these we noted M. Deschamps, rose; *Gloire du Donai*, crimson; Lady Leonora Bramwell, fine pink; Rubens, crimson; Mne. Henry, soft pink; Humea carnea; Festina maxima, one of the largest of double-white kinds; and Lady Dartmouth, also double white, very pure and free. Some pretty and useful flowering shrubs were also set up by Messrs. Veitch, including several *Philadelphus*, *Magnolia Watsoni*, *Robinia hispida*, *Abelia triflora*, *Solanum crispum*, &c., a really remarkable series of exhibits from one firm.

Messrs. T. S. Ware, Limited, Feltham, had a mixed group of hardy flowers in great variety. Conspicuous were *Campanula persicifolia* Moerheimi, very pure and semi-double, white; *Ostrawskia macrochaeta*, very fine; *Lewisia rediviva*; *Pentstemon murrayanus*, with salmon-scarlet flowers; *Gladiolus Watsoni*, a curious species with scarlet flowers. Iceland Poppies, *Peonies*, *Iris* of the flag and Spanish sections were also shown, as also quite a variety of the smaller yet deeply interesting alpine. Silver Banksian medal.

A very fine group was that of Mr. H. J. Jones, of Lewisham, in which *Begonias* of the tuberous section and in splendid condition played a central and very important part. Some of the plants were exceptionally good, and we noted Mrs. H. J. Jones, a *Camellia*-flowered kind, with large pink blossoms; Mrs. Price, rose; *Maréchal Niel*, golden, all double. The singles, too, were excellent. Then came *Ivy-leaved Pelargoniums*, such as the new Leopard, with spotted flowers, *Achievement*, and others. *Pelargoniums* in the decorative and regal kinds were largely shown in bunches, and, not least, a good flowering plant of the crimson *Malmesdon Carnation* H. J. Jones. This is a fine flower, well proportioned. Silver Banksian medal.

Messrs. Barr and Sons, Covent Garden, were in their usual place with hosts of single and double *Peonies* in variety, and a set of the beautiful Spanish *Iris*es, in which latter Golden Ring was a conspicuous flower; Louise, pale mauve; Helene, azure blue; Hercules, gold and bronze. *Lilium Martagon album* was also shown. Silver Banksian medal.

Messrs. J. Peed and Sons, Rouppel Park, Norwood, had many hardy things, in which *Pentstemon glaber*, *Dianthus neglectus*, *D. Napoleon III.* were seen, also the double white Rocket and *Inula glandulosa laciniata*, which is smaller and of deeper colour than the type. Many double *Pyrethrums* were also shown in this lot. Silver Banksian medal.

There was a very fine display of cut *Peonies*, *Delphiniums*, *Gaillardias*, &c., from Messrs. Kelway and Sons, Langport, Somerset, filling one entire table. Of *Peonies* alone there were probably some forty or fifty kinds, and as each kind was represented by at least six fine blooms the extent of the display, as also the brilliant colour, was very remarkable. Of *Delphiniums* alone some dozen or so novelties were seen, and they were represented by very fine specimens. Silver-gilt Flora medal.

Messrs. Paul and Son, Old Nurseries, Cheshunt, also had an array of *Peonies*, the best of these being *grandiflora nivea*, *La Perle*, rose-pink, Agnes Mary Kelway, semi-double pink with lemon-yellow anthers, Belle Châtelaine, grand petals, pink, centre white and pink, an exquisite flower; the single white-flowered Whiteley, with the gold centre, being very beautiful. Silver Flora medal.

Mr. E. Davis, Alton, Hants, showed *Violas* and *Pansies* in variety, for which a vote of thanks was given.

Messrs. R. H. Bath, Floral Farms, Wisbech, showed cut *Peonies* in splendid form; included were candidissima and *grandiflora nivea*, pure white; Lady Carrington and *Triumphans grandiflora*, flesh colour; Canarie, white; *albiflora carnea*, flesh colour with gold anthers; Faust, pink; *Nivea plenissima*, a fine double white; and *Saturnalia*, deep crimson-lake, very intense in its colouring. Silver Flora medal.

A very interesting lot of things came from Messrs. Dobbie, Rothsay, consisting chiefly of Sweet Peas, *Pansies*, and *Violas*. In the former, Emily Henderson, Salopian, Aurora, Countess Cadogan, America, and Oriental stood out well—all good well-known sorts; while in the *Violas* or Tufted *Pansies*, Pembroke, gold; Lizzie Paul, yellow, a rayed flower; Princess Louise, deep yellow, extra good formed flower; Blue Duchess, Lark, White Empress, and Colleen Bawn were conspicuous, the last white with blue margin and blue pencillings. These were finely shown and very fresh-looking. *Pansies* on boards were also abundant from the same source. Silver Flora medal.

Mr. Amos Perry, Winchmore Hill, again showed a beautiful lot of things, at once displaying the variety and the value of hardy plants as a class. There were *Water Lilies* in three or four colours, *Iris*es in many shades, *Tritomas* and *Eremuri*, with towering spikes, and so on: *Hieracium villosum*, *Incarvillea Delavayi* in plenty, *Statice speciosa*, *Phlox glaberrima*, an early rose-coloured species, *Pentstemon glaber*, very fine, and very pure and chaste the white form of *Geranium sanguineum*. There were also towering spikes of *Dictamnus caucasicus*, a richer coloured, much bolder form than the old *fraxinella*, a pretty mass of *Sedum Kamtschaticum*, fol. var., *Heuchera sanguinea splendens*, and others. Silver-gilt Banksian medal.

Mr. A. W. Wade, Colchester, showed hardy plants in variety, in which were seen *Iris*es, *Peonies*, *Inulas*, *Columbines*, &c. Vote of thanks.

From Christchurch, Hants, Mr. M. Prichard brought *Pionia Progress*, a grand flower, very double, white, delicately flesh-tinted, and highly fragrant; *Tropaeolum*

Leichtlini, of an orange colour; and *Spiraea Aruncus plumosa*, a kind blooming three weeks earlier than the old Goat's-beard *Spiraea*, the plants about 5 feet high. It is an excellent plant for the large border or for moist places.

From Colchester, Messrs. Wallace and Co., as is their wont, sent up a beautiful array of cut flowers, in which *Lilies* and *Peonies* were the leading features. In the former, such as Henry, rubellum, the minute-leaved and scarlet-flowered *tenuifolium*, a large lot of *thunbergianum* in variety, the pure white *longiflorum giganteum*, &c., were noticeable. Of *Peonies* we noted Lemon Queen, white petals, lemon centre; Mikado, crimson, with gold striped anthers; Dog Rose, a single kind, with flowers nearly imitating a large blossom of the Dog Rose, &c. *Calochorti* were also in evidence, as also were Spanish *Iris*, &c. Silver Flora medal.

Messrs. J. Cheal and Sons, Crawley, exhibited a variety of cut shrubs and variegated plants, such as Elm, Nut, Beech, &c., together with *Colutea crocea* and *C. purpurea*, *Philomis fruticosa* (true), and *Olearia dentata*, almost a Holly-leaved species with starry white flowers; *Lupinus arboreus*, &c. Silver Banksian medal.

Messrs. Hugh Low and Co., Enfield, had a fine table of the Malmesdon *Carnations*, in which all the best kinds were seen, though distinctly the most prominent were the fine pink flowers of Princess of Wales; Lady Grimston, Lord Rosebery, and Churchwarden were also freely interspersed. Silver Banksian medal.

Messrs. George Boyes and Co., Leicester, showed the yellow *Carnation*, Lord Roberts, good plants and well flowered, together with other named fancy kinds. Vote of thanks.

From Mr. B. R. Davies, Yeovil, came a very fine lot of single and double *Begonias*, mostly, however, single flowers arranged on boards. Some of the blooms were remarkable for the size, and the general character of the strain was evidently a good one. A few plants were shown, and these carried flowers of exceptional size. Silver Banksian medal.

The exhibit of Mr. H. B. May, Edmonton, was of a varied character, pot plants of a useful size being mostly shown. There were several showy colours, as Mrs. H. B. May, Hector, Golden Gem, &c., while in the Ivy-leaved section of *Pelargoniums* Leopard, Colonel Baden-Powell, and Mrs. H. B. Martin were seen, the pretty *Swainsonia galegifolia alba* in flower in the back showing to advantage. Silver Banksian medal.

Lady A. Tate, Park Hill, Streatham Common (gardener, Mr. Wm. Howe), contributed a very interesting exhibit in the shape of flowering and fruiting inflorescences of *Chamerops Fortunei*, the golden mass of the former being in marked contrast with the blackish looking fruits of the latter. A vote of thanks.

Sir Trevor Lawrence, Burford Lodge, Dorking (gardener, Mr. Bain), sent up a fine lot of *Anthurium andreanum* Lawrence, the pure white glistening spathes being 6 inches long and 5 inches broad, a large number of fine spathes being shown. A pure white and rather elegant *Erigeron* E. Coulteri came also from the same source.

Lady Nina Balfour, Newton Don, Kelso, showed vases of Malmesdon *Carnations* of a pink shade; the blooms were very large and well coloured, being much admired. Silver Banksian medal.

Lord Aldenham, Elstree, Herts (gardener, Mr. E. Beckett), sent an exhibit entirely of *Streptocarpus*, and these of the highest degree of excellence. Silver Flora medal was awarded.

ROSES.

Mr. George Prince, Rose grower, Longford, Berks, arranged a beautiful lot of cut Roses, which also were very tastefully displayed. At the back of the exhibit they were bunched in vases and arranged in bamboo stands, while the front was occupied with single blooms in boxes. In the centre of the exhibit was a magnificent lot of *Comtesse de Nadailac* blooms, in which the rich and delicate colouring of this Rose were shown to perfection. Amongst the bunched Roses were such good things as Reve d'Or, Bardou Job, Rainbow, curiously striped with rose-crimson upon a paler ground, Papillon, Claire Jacquier, Thalia, Gustave Regis, and others. The show blooms were represented by *Souvenir de S. A. Prince*, *Souvenir d'un Ami*, *Maréchal Niel*, E. V. Hermanos, and Princess of Wales. These are a few of the best, but many more must be left unnamed.

Messrs. Frank Cant and Co., Colchester, made a display with beautiful bunches of Roses in great variety. The blooms were remarkable for their fine colouring, and amongst them were such good things as Ma Capucine, Gustave Regis, Paul's Single White, Beauté Inconstante, Queen Mab, Aglaia, M. Chedane Guinoisseau, Rose Bradwardine (a hybrid Sweet Briar), Mme. E. Resal, W. A. Richardson, l'Idéal, &c. Exhibition blooms were represented by Medea, a lovely pale yellow with a deeper centre, Mme. Ravary, Bessie Brown, Antoine Rivoire, Mrs. W. J. Grant, Mme. Hoste, and others.

Messrs. D. Prior and Son, Colchester, arranged several stands of splendid cut blooms, all fine bold flowers. *Maréchal Niel* was superb, as also were Mrs. W. J. Grant, Mrs. John Laing, Maman Cochet, Duke of Edinburgh, *Souvenir d'un Ami*, and Mme. Gabriel Luizet. New ones included Bessie Brown, white, partly tinged, and Mrs. Mawley, a blush Tea.

Messrs. Benjamin R. Cant and Sons, the Old Rose Garden, Colchester, showed a beautiful group of cut Roses, some of which were in bunches, others arranged singly in stands. The former included Ma Capucine, an exquisite colour, buff, tipped and tinged with orange-red; Mme. P. Perry, R. Rugosa, Blanche Double De Courbet, Marquise de Salisbury, Bardou Job, Papa Gontier, and Georges Schwartz. The seedling Tea Mrs. B. R. Cant, new last year, was well represented, and a new Rose was also shown called Othello. This is a Hybrid Perpetual, reminding one somewhat in colour of Ulrich Brunner, though it has a lovely blue tinge that the other has not. The bloom is large and lasts well, the one shown having been cut three or four days.

Messrs. Paul and Son, the Old Nurseries, Cheshunt, also made a pleasing and varied display with cut bunched Roses. The new Hybrid Tea Lady Battersea was conspicuous, while the Austrian Copper, Eleanor Berkeley and Royal Cluster,

two rambling Roses, the former a semi-double deep pink, the latter single and paler in colour; Paul's Carmine Pillar, Jersey Beauty, Mme. C. Guinoisseau, a lovely pale yellow, added variety of colour and form.

Messrs. James Veitch and Sons, Limited, Chelsea, exhibited a group of well-flowered plants of the new climbing Rose Electra, a hybrid between multiflora simplex and W. A. Richardson. It is very profuse-flowering, in the bud form a pale buff-yellow changing to a paler tint in the expanded blossoms.

Mr. William Spooner, Arthurs Bridge Nursery, Woking, showed cut Roses arranged in small bunches. They were all in bud and made a pleasing display. Cramoie Superieure, Rainbow, l'Idéal, Mme. Eugene Resal, Reine Olga de Wurtemberg, Aglaia, Marie Van Houtte, Moss Roses, &c., were included.

Messrs. William Paul and Son, Waltham Cross, Herts, had a collection of new Roses, including the new hybrid Tea Rose certificated last year; Tennyson, a massive bloom of good form, pale blush in colour; and the new Tea Boadicea, a flower of delicate and rich colouring, light rose-pink, with a deeper centre. The new bedding and decorative Tea Rose Corallina, of a lovely rose-crimson and a most vigorous grower; an unnamed seedling, with very long buds and peach-coloured blooms when expanded; Sulphurea, a most distinct colour; wichuriana rubra and Chameleon were also amongst the collection.

Messrs. George Jackman and Sons, Woking, arranged a collection of cut Roses, both in vases and singly in boxes. Quite a bank was made by the former, the latter being placed along the front. The bunches of Roses in bud are always much admired, and the varieties shown by Messrs. Jackman were no exception to the rule. Some of the best were l'Idéal, a beautiful colour; Hybrid Sweet Briar Amy Robsart, Mme. Abel Carrière, Safrano, and Papillon. The Hybrid Perpetuals and Teas included well-formed blooms.

The interesting lecture on "Gardening in the London Parks," delivered by Lieut.-Colonel Wheatley, R.E., is held over until next week.

YORK GALA.

THE forty-third gathering was held in Bootham Field, York, on the 12th, 13th, and 14th inst., and if the general display fell slightly below those of a few years since, there were features that have never been equalled in the northern city. For example, Messrs. Rivers and Son sent a collection of their fruit trees in pots, of which a few details are given below, and Messrs. J. Veitch and Sons were in exceptional form with Kalanchoe flammea and Streptocarpus, of which the white forms were superb. Mr. J. P. Leadbetter sent from Tranby Croft some splendid Malmaison Carnations and some of the finest Black Hamburg Grapes we have ever seen. Mr. McIndoe was in great form in the fruit section, and secured a large share of premier awards in the more important classes. Messrs. J. Cypher, W. Vause, and C. Lawton, of Welton, staged magnificently in the specimen plant classes, while the Rev. G. Yeats sent some grand Ferns. In these classes and those for Orchids the plants were so much mixed that it was difficult in all cases and impossible in one or two to ascertain the prize winners.

GROUPS AND SPECIMEN PLANTS.

Five exhibits faced the judges in the class for a group of miscellaneous plants, in or out of bloom, arranged in a space not exceeding 300 square feet. Each group had distinctly meritorious features, but they were not quite equal to some we have seen in previous years. E. E. Faber, Esq., Belvedere, Harrogate (gardener, Mr. W. Townsend), whose group was much lighter and more artistic than those of the others, was placed first. The cork-built central mound was surmounted by a graceful specimen of Cocos weddelliana. From the sides sprang Odontoglossum crispum carrying good racemes of flowers. Surrounding this were specimen Crotons and Dracanas rising from a ground-work of Ferns, Gloxinias, Caladiums, Coleus, Pandanus, Odontoglossums, and Cattleyas. In the background Acers, Palms, and Bamboos were skillfully employed. The second position was assigned to Mr. J. S. Sharp, Almondsbury, Huddersfield, who had a splendid group, but the arrangement was too formal and the effect lacked brightness. Mr. W. Vause, Leamington Spa, had considerably overdone the cork, and this detracted much from the group, which contained many admirably grown plants. J. Blacker, Esq., Thorpe Villas, Selby (gardener, Mr. W. Curtis), was fourth.

In the class for twelve stove and greenhouse plants in bloom, Mr. J. Cypher, Cheltenham, was first with well-grown examples of Francisca eximia, Bougainvillea sanderiana, Aphelxis macrantha rosea, Clerodendron Thompsonae, Anthurium scherzerianum, and Dracophyllum gracile with Ericas cavendishiana, ventricosa magnifica, and v. grandiflora. As far as could be ascertained in the peculiar staging the remaining three plants were Croton montefontaineana, Kentia belmoreana, and Livistona australis, but how these belong to a class for plants in bloom is not very apparent. Mr. W. Vause was second and Colonel Harrison Broadley, Welton House, Brough (gardener, Mr. C. Lawton), third. For six plants in bloom, Mr. J. Cypher was again first, and Mr. W. Vause second. Mr. Cypher maintained his place for three plants being followed by Messrs. R. Simpson and Son and W. Vause as named. For one stove plant in bloom, Mr. W. Vause was first with Anthurium scherzerianum, as also was he for a greenhouse plant with Erica ventricosa. Mr. Cypher was first for an Erica with a fine plant of depressa. For six fine foliage or variegated plants, Messrs. J. Cypher and W. Vause were first and second with handsome plants; while for three, Mr. Lawton was ahead with grand examples of Kentia belmoreana, Dasylirion acrotrichum, and Croton Chelouhi. The same exhibitors were conspicuous in the remaining classes for specimen plants.

FERNS.

These made quite a little exhibition in themselves, and gave abundant evidence of excellent culture on the part of the growers. For six exotic Ferns, distinct, the Rev. G. Yeats, Heworth Vicarage, York (gardener, Mr. J. Snowden),

was first; Messrs. R. Simpson and Co. were second. The Rev. G. Yeats was also first for three exotic Ferns, and was followed by Mr. J. Eastwood. The Rev. G. Yeats was again first for one plant with a splendid example of Adiantum cuneatum. Mr. J. Eastwood was second with Davallia canariensis, and R. Lawson, Esq. Ousecliffe, Clifton, York (gardener, Mr. G. H. Dobson), was third with Adiantum cuneatum. Mr. T. Nicholson, Bootham Stray, York, was first for ten and six hardy Ferns, being followed in each case by Messrs. R. Simpson and Co.

ROSES.

Roses made a really superb display, the flowers being numerous, of excellent form, and very brilliantly coloured. Messrs. B. R. Cant and Sons, Colchester, were first for seventy-two, in not less than thirty-six varieties. Amongst the best were Catherine Mermet, White Maman Cochet, Medea, Cleopatra, Golden Gate, Marie Van Houtte, Bridesmaid, Abel Carrière, Kaiserin Augusta Victoria, Mme. Gabriel Luizet, Jean Ducher, and Comtesse de Nadaillac. Messrs. Harkness and Son, Bedale, were second, and Mr. George Mount, Canterbury, third; but some distance separated them from the winners. For forty-eight distinct single trusses, Messrs. B. R. Cant and Sons were first with remarkably good flowers, including Crown Prince, Ethel Brownlow, Tom Wood, Mrs. W. J. Grant, Viscountess Folkestone, Sylph, Maréchal Niel, Countess of Rosebery, Ulrich Brunner, Mme. Lambert, and Mme. Cusin (superb colour), and the varieties named in the preceding class; Messrs. Harkness and Son were second with Cleopatra, Comte de Raimbaud, Kaiserin Augusta Victoria, Bridesmaid, Mme. Montet, and Mrs. W. J. Grant as their best blooms; Messrs. J. Townsend and Sons, Worcester, were third. There were five contestants for the prizes in the this class.

In the class for thirty-six Roses, distinct, Mr. G. Prince was a fine first with a very attractive collection. The flowers were clean, fresh, and bright, and comprised the following varieties: Cleopatra, Luciole, Princess of Wales, La Fraicheur, White Lady, Rainbow, Souvenir de S. A. Prince, Nestor, The Bride, and Medea. Messrs. B. R. Cant and Sons were second, and Messrs. J. Townsend and Sons third. Seven competed in the class for twenty-four Roses, distinct, and Mr. G. Prince retained the lead. He had five flowers of The Bride, Bridesmaid, Marie Van Houtte, White Lady, Duke of Edinburgh, and Comtesse de Nadaillac. Messrs. B. R. Cant and Sons followed very closely with smaller, but fresh and brightly coloured blooms; Messrs. J. Townsend and Sons were third. For eighteen, distinct, Mr. G. Prince was again first; Messrs. B. R. Cant and Sons second; and Messrs. G. Cooling and Sons, Bath, third. Mr. G. Prince was first in the class for twelve white and yellow Roses with Maréchal Niel, Souvenir de S. A. Prince, Niphetos, Comtesse de Nadaillac, The Bride, and Medea; Messrs. B. R. Cant and Sons were second, and Messrs. Harkness and Son third. Roses in pots were not nearly so meritorious as were the cut blooms. Messrs. H. Pybus and J. D. Hutchinson, Kirby Moorside, divided the chief prizes.

PELAGONIUMS.

Pelargoniums constitute one of the finest features of the York shows. For twelve show Pelargoniums, distinct, Mrs. Tetley, Fox Hill, Westwood, Leeds (gardener, Mr. J. Eastwood), was first with superb examples of Ruth, Sultana, Salmonoides, Mme. Thibaut, Prince Teck, Queen Bess, Mary Hoyle, Magpie, Painted Lady, Mabel Richard, Desmoulins, and Kingston Beauty; Mr. J. Bellerby was third. For six show varieties, Mr. Eastwood was again first, and Mr. W. Oldham second. Mr. Eastwood was first for twelve zonal, hose-gay, or hybrid nosegay varieties, with the Rev. H. Harris, Mrs. W. Paul, John Watson, Lucy, Mrs. Gordon, Divine Comedy, Princess of Wales, Renown, the Rev. A. Atkinson, Swanley Gem, H. Jacoby, and President Thiers. Mr. H. Pybus was second. For six and three plants these two growers continued in the same positions. For nine doubles Mr. Eastwood was first with Chas. Pfitzer, Raffael Gannarth, Dr. Jacoby, Lord E. Cecil, Le Cygne, Empress of India, Lord Mayor, and Jules Simon. Messrs. R. Simpson and Son were second, and Mr. H. Pybus third. For six double Ivy-leaf varieties, Mr. Eastwood was first with Jeannie Guillelt, Sabine, Grey Sussex, Mme. Crousse, Josephine, Hohenzollern, and Florence; Mr. Pybus was second. The same positions held good for three plants.

PLANTS IN POTS.

For a group of Carnations, Arthur Wilson, Esq., Tranby Croft, Hull (gardener, Mr. J. P. Leadbetter), was easily first by reason of the excellent quality of the plants. J. B. Gratian, Esq., Ingmanthorpe Hall, Wetherby (gardener, Mr. M. Murchison), was second; and Messrs. W. Walshaw and Son, Scarborough, third. For Calceolarias, W. T. Owbridge, Esq., Cottingham, Hull (gardener, Mr. V. Waterhouse), was very successful, and staged some excellent plants, as did he in the class for a table of tuberous-rooted Begonias. Messrs. R. Simpson and Son were first for a group of Gloxinias, the Rev. G. Yeats was second, and Mr. V. Waterhouse third.

CUT FLOWERS AND FLORAL DECORATIONS

Both hardy and tender cut flowers were largely shown, and made a bright and handsome spectacle. In the three classes devoted to hardy flowers, Messrs. Harkness and Son were first, staging magnificently in each case. The flowers were shown in large bunches, and all were conspicuous for their excellence and richness of colour. Messrs. G. Gibson and Co., R. Smith and Co., J. McIndoe, and W. Hutchinson divided the remaining prizes. Mr. McIndoe won the classes for twelve bunches of choice cut flowers, exclusive of Orchids, and also that in which these flowers were permissible. Floral decorations in the form of bouquets, stands of flowers, and tables of floral designs were superb, and characterised by select flowers and elegance of arrangement. Messrs. Perkins and Sons, Coventry, Messrs. Artindale and Son, J. Summers, and J. Kirk annexed a goodly proportion of the prizes in the several classes.

ORCHIDS.

The Orchids were placed upon the central table in the large tent, and made a most attractive picture. Unfortunately, they were considerably mixed, and this rendered it well nigh impossible to ensure accurate reporting. For a table of Orchids, Mr. J. Cypher was first, Mr. J. Robson second, and Mr. W. Vause fourth. We could not find the third prize winner. Mr. J. Cypher was again first for ten Orchids in bloom, with some grandly grown specimens; Mr. J. Robson was second, W. P. Burkenshaw, Esq., Hessele, Hull (gardener, Mr. J. S. Barker), third, and Mr. W. Townsend fourth. Mr. J. P. Barker was first for six Orchids with finely flowered plants; Mr. J. Cypher was second, and Mr. W. Townsend fourth. In the amateur classes for Orchids Mr. J. P. Barker secured practically all the premier awards, staging most creditably throughout.

VEGETABLES.

There were only two classes for vegetables, both being provided by seed merchants, and in each case Lord Aldenham, Aldenham House, Elstree (gardener, Mr. E. Beckett), was first. In Messrs. Sutton and Son's class, the winner staged Cauliflower Magnum Bonum, Carrot Early Gem, Tomato Perfection, Pea Duke of Albany, Potato Sharpe's Victor, and Bean Canadian Wonder; Mr. J. McIndoe was second, and the Earl of Lathom, Lathom House, Ormskirk (gardener, Mr. Bashton), third. In Messrs. Webb and Son's class, Mr. Beckett showed Cauliflower Peerless, Tomato Viceroy, Carrot Prize Winner, Potato Sharpe's Victor, Bean Canadian Wonder, and Pea Edwin Beckett; Mr. McIndoe was second, and Mr. B. Ashton third.

FRUIT.

The principal class in this important section was for a decorated dessert table of ripe fruit, not to exceed fourteen dishes, or less than ten. The premier place was taken by Sir J. W. Pease, Bart., M.P., Hutton Hall, Guisborough (gardener, Mr. J. McIndoe), who, second, got 99 points out of a possible 136. The dishes were Cherries, Early Rivers' and Bigarreau de Schrekens, 9½; Grapes, Black Hamburg, 7½; and Muscat of Alexandria, 4; Melons, Best of All and Hutton Hall Greenflesh, 10; Nectarine Early Rivers, 5; Peaches, Early Alfred and Grosse Mignonne, 10; Plums, Early Transparent Gage and Count Althann's Gage, 10½; Strawberry Royal Sovereign, 5; Fig Brown Turkey, 5½; and Pear Clapp's Favourite, 5. For beauty of flower and foliage the points were 6; for harmonious blending of colour, 6; and for general arrangement for effect, 6. The flowers used included Heuchera sanguinea, Franca ramosa, Odontoglossum crispum, Lelia harpophylla, L. purpurata, Dendrobium dalhousianum, Cattleya Mendell, and Masdevallias. The scheme of arrangement was very charming. Mr. C. E. Simpson, Huntriss Row, Scarborough, was second with 67½ points; Mr. J. Sinclair, Blake Street, York, was third with 66 points. The latter fell off considerably in the floral section of the table.

There was apparently only one entry of fruits, eight kinds. This was Mr. McIndoe, who was awarded the first prize. The fruits were Grapes Black Hamburg and Foster's Seedling, Peach Grosse Mignonne, Fig Brown Turkey, Cherry Black Tartarian, Melon Yorkshire Beauty, Nectarine Murray, and Plum Purple Imperial. Eight competitors faced the judges in the class for four kinds of fruits, and Lord Barnard, Raby Castle, Darlington (gardener, Mr. James Tullet), was first. Mr. McIndoe second, and the Earl of Lonsborough, Lonsborough Park, Market Weighton (gardener, Mr. J. McPherson), third. For Pines, Mr. J. Jordan was first and Mr. J. Tullet second. Mr. J. P. Leadbetter was a grand first for Black Hamburg Grapes, with absolutely perfect examples, Mr. J. McPherson was second, also showing well, and Mr. J. Tullet third; there were nine competitors. For White Grapes, Lady Beaumont, Carlton Towers, R.S.O. (gardener, Mr. W. Nichols), was easily first with excellent examples of Buckland Sweetwater, Mr. J. Tullet being second, and Mr. J. McIndoe third, both showing Foster's Seedling. The classes for Peaches, Nectarines, Figs, Melons, and Cherries were all keenly contested, and brought forth some highly meritorious produce. In some cases there were as many as twelve competitors.

NON-COMPETITIVE EXHIBITS.

These formed a very handsome addition to the exhibition. Lord Middleton, Birsall, York (gardener, Mr. B. Wadds), sent a box of flowers of Schubertia grandiflora, which was recommended as a rival to Stephanotis. Messrs. Charlesworth and Co., Heaton, Bradford, showed Orchids, including Lælio Cattleya Lady Wigan, L.-C. canhamiana, L.-C. Phebe, Cattleya Mendell, and C. Mossie, with Miltonias, Oncidiums, and others. Mr. G. Yeld, Clifton, York, contributed hybrid Hemerocallis, including the beautiful Apricot, and Irises amongst which Sarpedon was magnificent. Messrs. R. Wallace and Co., Colchester, arranged a group of Liliums in very extensive variety, with Brodiaeas, Calochortis, Irises, Xias, Peonies, Linaria dalmatica, Inula glandulosa, Incarvillea Delavayi, and Lupinus arboreus, the whole forming a very striking exhibit. Messrs. J. Peed and Son, West Norwood, showed Gloxinias, amongst which Mrs. McKinley, Blue King, Brilliant, Mrs. W. Weaver, Queen Alexandra, Earl Roberts, Shamrock I., and Fairy Queen were conspicuous. All the plants were well grown and profusely flowered. Messrs. G. Boyes and Co., Derby, showed the new yellow Carnation Lord Roberts, which has a non-bursting calyx.

A superb collection of hardy Water Lilies was shown by Messrs. de Rothschild, Gunnersbury House, Acton (gardener, Mr. James Hudson, V.M.H.). Those represented were flammea, ignea, robinsoniana, Mariacae, rosea, M. chromatella, ellisiana, alba candidissima, Laydekeri lilacea, stellata, and Wm. Falconer. Messrs. Webb and Sons, Wordsley, staged Gloxinias. The plants were small, but gave promise of fine form and colour. Messrs. Dicksons, Limited, Chester, sent hardy flowers. Bearded and Spanish Irises, Peonies, Eremurus robustus, Kniphofia Tuckeri, and Gerbera Jamesoni being especially noticeable. Messrs. G. Cooling and Sons, Bath, were repre-

sented by a most beautiful collection of garden Roses; they were shown in large bunches, and included such varieties as Purity, Papillon, Wm. A. Richardson, Corallina, Paul's Carmine Pillar, Mme. Eugene Resal, Janet's Pride, Ma Capucine, Shirley Hibberd, and Camoens. Mr. J. Wood, Kirkstall, Leeds, had a small rockery. Messrs. J. Veitch and Sons, Limited, Chelsea, arranged Kalanchoe flammea, Gloxinia, and Streptocarpus in splendid condition, as well as a few Lælio-Cattleyas of particular merit. Messrs. W. Cutbush and Sons, Highgate, had a very good collection of Carnations, Malmays being particularly fine. The group also included Eremuri, Ericas, Bamboos, Palms, and Azaleas. Messrs. R. Smith and Co., Worcester, showed trained Clematis, Cupressus macrocarpa lutea, Crotons, Anthurium scherzerianum, with Pimeleas and Ericas in variety.

Messrs. T. Rivers and Sons, Sawbridgeworth, sent a magnificent collection of fruit trees in pots. The Nectarines were Lord Napier, Stanwick Elrude, Dryden, and Cardinal, all the fruits being of splendid shape and beautifully coloured. Of Cherries there were Guigne d'Annonay, Early Rivers, and Belle d'Orleans, while Plums included Curlew, The Czar, and Early Prolific. Mr. J. C. Edwards, Leeds, showed foliage and flowering plants in variety, and Mr. R. Sydenham, Tenby Street, Birmingham, showed excellent Sweet Peas. Messrs. H. Low and Co., Bush Hill Park, had a collection of Orchids, amongst which Cattleya intermedia alba, C. Mossie reineckiana Edward VII., C. M. excelsa, Lælio-Cattleya Phoebe, and Odontoglossum loochristiense were conspicuous.

WOOD GREEN HORTICULTURAL SOCIETY.

The monthly meeting was held at the Masonic Hall, Wood Green, on June 11, at which Mr. W. E. Shrivell, F.L.S., F.R.H.S., gave a most instructive and interesting lecture on "Chemical Manures for Garden and Greenhouse Work," great interest being taken by the many members and friends who were present.

A grand exhibition was held at the same time, at which Messrs. Amos Perry, Hardy Plant Farm, Winchmore Hill, staged an extensive collection of cut blooms, including several fine new Poppies and many varieties of Oncocylus Iris, Gatesii being especially fine. Mr. Perry also showed some fine plants of Phlox ovata.

Messrs. Stanley Ashton and Co., Orchid growers, Southgate, N., also staged a magnificent collection of Orchids, among them being especially noticeable Cattleya Mossie, Odontoglossum citrosum, and many kinds of Oncidiums, Cypripediums, and Ependrum.

The judges, one of whom was Mr. Hemmings, head gardener at the Alexandra Palace, considered the exhibits of Messrs. Perry and Stanley Ashton and Co. of great merit, and awarded each of them the gold medal of the society.

Mr. J. H. Stickler, florist, of Wood Green, staged a very fine lot of the new Ivy Pelargonium Galilee, for which he was awarded a certificate of merit of the society. Among the members who exhibited were Mr. R. Core Gardner, with a collection of cut flowers, and Mr. Le Riche and Mr. W. E. Phillips, both with hanging baskets. Mr. Gould won Mr. Phillips's prize for Roses, showing a magnificent collection; he also exhibited a very fine vase of Buddleia globosa.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—The Editors intend to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITORS OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Names of plants.—C. M. Curly.—The Orchis is apparently the not uncommon white variety of O. Morio. The bush is Viburnum Opulus, the wild Guelder Rose or Water Elder, botanically identical with the garden Guelder Rose, but that in the latter all the florets are sterile, instead of the sterile being in an outer ring only, as in the wild.

W. A. G.—1, Veronica rupestris; 2, a dark coloured form of Scilla peruviana—Subseriber (Cork).—Hyacinthus amethystinus.—G. R. W.—The small flower is Iris graminea; the large one a form of I. variegata, but the flower was much shrivelled when we received it. There are so many of this class in cultivation.—G. R. C.—1, Glechoma hederacea variegata (variegated ground ivy); 2, Polygonum cuspidatum; 3, Lamium Galeobdolon.—C. B. M.—The Berberis is B. wallichiana, and the Calycanthus is C. glaucus.—Kentish.—The Judas tree (Cercis siliquastrum).

Replanting hardy bulbs (REV. ROLLO MEYER).—The best time to replant all hardy bulbs is as soon as the leaves die down. Sternbergia should certainly be replanted as soon as possible; it might have been done earlier, and Erythronium now.

Berberis (J. A.).—The Berberis is B. nepalensis. We cannot account for the shoots going in the way described, unless it be due to poverty in the soil, an altogether starved condition of growth. B. nepalensis is very handsome when not fettered with neighbouring shrubs.

Spanish Chestnut with hard nut (CAREL).—We do not know any Spanish Chestnut that produces a very hard nut, and should imagine yours was something totally

different. From the fact that the nuts were picked up on the beach they may have been brought by the Gulf Stream, possibly from the West Indian Islands, so that it is impossible to say what they are. It is scarcely likely that the plant will prove hardy.

Potting Chrysanthemums (ALPHA).—Removing Chrysanthemums from 6-inch pots, in which they should be some 2½ feet to 3 feet in height, as yours are, into large pots from 9 inches to 10 inches broad should be done at once. Have a compost of two-thirds sweet turfy loam, the rest being composed of well-turned, sweetened, and half-decayed horse manure, wood ashes, screened mortar rubble, and soot, and to each barrow load of soil one pint of quite fine bone dust. Mix this well, and when ready put ample drainage into each pot, on that some of the coarser parts of the compost, then fill up. In potting do not fail to make the soil about the mass of roots quite firm, as that not only conduces to the production of hard woody stems, but also later fine blooms.

Autumn Cabbages (S. J. C.).—June is rather late to make a sowing of Cabbage seed for autumn cutting, but still if you will sow any good small hearting variety, such as Ellam's Early York or Market Garden, you may get them planted out in time to furnish small hearts in October. It will be wise to get plants presently from May sowings of All Heart, Improved Nonpareil or Les Etampes to give earlier cuttings, and some of that admirable round-headed Cabbage, St. John's Day, to turn in during November and December. Because of the usual abundance of Peas, Beans, and other summer vegetables, Cabbages are not in much demand during July and August, and especially because during hot weather caterpillars are plentiful. No doubt during those months the best of the Cabbage tribe are found in small solid white Cauliflowers, which plants put out now of Snowball, Forcing, or Perfection will give later on.

Auricula seeds germinating (FLORA).—The time it may take your seed of Auricula to germinate depends on how old it is. But we can say that if it be of last year's sowing, was well ripened, has been by you properly sown, kept moist, and shaded it should germinate in three weeks, and be seen well up in a month. That is our experience, even this season, with seed sown in shallow boxes outdoors and covered with panes of glass. These have been shaded with paper during hot sunshine. Have you treated yours in the same way? Auricula seeds have rather hard coats, and they need some softening in damp soil before the germ of growth can escape. Light is not needful for germination, but warmth, air, and moisture are. Those are the primary aids to success. Too much exposure to light often means a drying up of the soil just at the moment germination is commencing.

Late Green Peas (ALBION).—If you wish to have good Peas to gather in September, do not sow on a hot border; but in any case you will have little success, though we have a wet summer, unless you have a trench made some 2 feet in width and as deep, throwing out the top spit on to one side and the bottom soil on the other; then break up the bottom, throwing on to that some half-decayed manure, and on that 6 inches of soil. Mix soil and manure, then repeat the process, and continue to do so, using first the top soil and then some from the sides of the trench. Tread the soil and manure fairly firm, and when the trench is full draw two drills with a hoe side by side down the centre, and sow either Autocrat or Late Queen thinly in the furrows, and cover them up. The soil will settle down still more, leaving a slight hollow, which will hold water when needed. The sowing should be made about the middle of the present month.

Potatoes in boxes (H. J. G.).—There is very little art in growing early forced Potatoes in boxes such as you saw at the Temple show. The boxes may take three tubers planted 12 inches apart, be 3 feet long, and 9 inches wide inside. They should be 9 inches deep, and have a few holes bored in the bottom to enable surplus moisture to escape. As to movable sides, to which you refer, that arrangement is easy enough if the sides be made either to drop into grooves at each end or be secured to the bottom and ends by means of hooks or screws. Then, as you suggest, these sides could at a certain stage of growth of the plants be taken off, all the largest tubers carefully removed, and then the sides, being replaced, fresh soil could be added, and the plants be allowed to finish or swell up the rest of the growing tubers. Boxes of that form might with care last for many years.

Elm trees and wall (SANDGATE).—We understand your query to be that 2 feet from a high garden wall you have a row of Elm trees 6 feet apart, some of which, or branches from which, you wish to remove. If you wish to utilise the wall there is little chance of success unless you remove the trees absolutely. If the trees remain the only possible use for the wall then will be covering it with Ivy, planted at its base in the autumn; but where Elm trees grow so close the soil is so eaten up by their roots that there is little chance for anything else to grow, apart from the fact that light and air are so excluded. Of course, were the trees quite removed you could plant the wall with fruit trees or nice flowering climbers.

Peas in greenhouse (CIVIS).—We fear you have made a grave mistake in sowing Peas on the floor of a greenhouse so late as May 25. Had it been some early varieties and sown three months earlier all might have been well, but you have sown quarts of strong-growing late Peas where you should have sown only half pints, and at the time of year, end of May, it should have been outdoors. You do not tell us how far your rows are apart, but they should be 4 feet at least, as no doubt in a house they will, with sticks, reach from 5 feet to 6 feet in height. Certainly, you should pinch out two-thirds of the plants and get them staked. You must also keep them well watered, and each night sprinkled overhead. Even then there is fear, owing to the house getting too hot and dry, that the plants will be eaten up by thrips. Peas are all right in a greenhouse very early, but certainly should be outdoors in the summer.

Storing Potatoes (G. W., Kent).—If you wish to store Potatoes for seed or planting purposes through the

winter, the trays you refer to will do admirably, or they may be thinly exposed to light and air as cool as possible, but free from frost, on light shelves 18 inches apart in a loft; but as you say your loft is over a stable there is danger that the temperature may be too high to keep Potatoes at rest. Frost must be excluded. If you want your Potatoes for eating only, then put by only those of eating size. If these are early ones, then let them be kept in heaps on a cool floor, and in an absolutely dark place, where they can be occasionally looked over if they begin to sprout. They should have some straw laid over them to exclude air. Late Potatoes may be stored in a pit outdoors, well covered up with straw and soil, till Christmas, then be got into a cool store, and be kept in tubs, boxes, or in heaps till wanted.

Split pod Carnations (MORRIS).—The splitting of the pod or calyx of a Carnation flower is a great defect. We regret to say that it is far too commonly such, and should never be tolerated. Your best remedy with such defects is to obtain a quantity of small india-rubber rings, and whilst the pods are still forming to slip those over them, so that they enclose the lower or sheath portion of the calyx, or you can tie round them pieces of thread or fine raffia grass. Of course all this signifies much trouble, and is far from being pleasing. Far better gradually get rid of these pod-splitting, loose-flowered varieties, and replace them with others that have not such defects. There are many that do not split as there are many which do. We hope some day no award of merit or certificate will be given to pod-bursting flowers.

Scotch Fir attacked by caterpillars (H. FLOWRIGHT).—Your Scotch firs are attacked by the caterpillars of the Pine shoot Tortrix Moth (Retinia buoliana), a pretty insect, measuring somewhat less than an inch across the wings; the upper pair are reddish yellow with various white and silvery markings, the lower pair are greyish. The moth lays her eggs on the young shoots, and the young caterpillars make their way into them. The best remedy is to cut off the infested shoots and burn them. The moths emerge from the chrysalides in July. Any that can be caught should be killed, and it might be of use to spray the trees with some insecticide containing soft soap, in order to deter the moths from settling on them to lay their eggs. It is obvious that no insecticide can be made to reach the caterpillars.

The Cape Silver Tree (Leucadendron argenteum) from seed (CAREL).—This is not difficult to raise from seeds, but in common with most plants of the natural order to which it belongs (Proteaceae), the young plants need very careful treatment during their earlier stages. To succeed in the culture of this beautiful shrub the seed should, if possible, be sown in the spring, as by so doing the young plants will become established before winter. Whether sown in pots or pans, thorough drainage is absolutely necessary, and a very suitable compost is two parts peat to one of loam and nearly half a part of silver sand. This being well incorporated together, the pots or pans should be filled to within half an inch of the rim with this compost, pressed moderately firm and made level. Then sow the seed thereon and cover with a little more than a quarter of an inch of the same soil. After this, place, if possible, in an intermediate house, that is to say, a structure kept a little warmer than an ordinary greenhouse, and give just sufficient water to keep the soil fairly moist. So treated, the seed will not take long to germinate, then, as soon as the first true leaf is developed, comes the critical time, the young plants being liable to damp off. To overcome this difficulty, as soon as the seedlings have reached this stage they must be potted off, using small pots, ample drainage, and the same kind of compost as the seeds were sown in. In potting, the soil should be made moderately firm and the roots buried at such a depth that the cotyledons are just clear of the soil, as if potted too high they are apt to topple over and perish, while if put too deep it is just as injurious. After this they should be kept in the intermediate house, or, failing this, the warmest part of the greenhouse, and if kept a little closer than usual till they recover from the check of potting so much the better. Of course, during all this the plants should be shaded from direct sunshine. Watering must be carefully done, for though an excess of moisture is to be avoided, drought is quite as injurious. The young plants may be wintered in these small pots, and the following spring repotted into larger ones. After its infancy is past, the Silver Tree requires much the same treatment as Heath, Epacris, and such things, viz., a greenhouse temperature, a free circulation of air so as to maintain a light, buoyant atmosphere, especially during the winter, and careful attention to watering.

CATALOGUES RECEIVED.

Fruits and Flowers.—Messrs. D. Hay and Son, Montpellier Nurseries, Auckland, N.Z.

Hardy Plants.—Messrs. V. N. Gauntlett, and Co., the Japanese Nurseries, Redruth.

Flowers and Vegetable Seeds.—Messrs. Oakenhead and Co., 86, Patrick Street, Cork.

Bulbs, Roots, and Terrestrial Orchids, &c.—Dammann and Co., San Giovanni a Teduccio, near Naples, Italy.

JOURNALS, &c., RECEIVED.

The Entomologist, Journal of Botany, Bulletin de l'Association pour la protection des plantes, American Journal of Science, Liverpool Horticultural Association (schedule of prizes for spring and autumn shows), Le Chrysanthème Bulletin de la Société Française d'Horticulture de Londres, &c.

GARDENING APPOINTMENT.

MR. J. KELLY, for the past seven and a half years with Messrs. Backhouse and Son, Limited, York, has been appointed assistant secretary to Messrs. Curtis, Sandford and Co., Limited, Devon Rosery, Torquay, and has entered upon his duties.

THE GARDEN

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[JUNE 29, 1901.]

BEDDING PLANTS TO SPARE.

IN the frame-yards of large gardens there are nearly always at this time of year numbers of odds and ends of bedding and other various plants in pots and many seedlings of the half-hardy classes that are no longer wanted. We wish to remind the owners of such spare goods how much they will be prized by village neighbours, either for cottage windows or for brightening their little garden plots. The mere fact that they cannot grow them themselves, having no frame or other appliance, enhances the value of such plants, while even so small a gift as three seedlings of African Marigold may make a gorgeous show in a little cottage garden. It is one of the many cases where, without cost and only at the expense of the trouble of very slight pains-taking, a kindness can be done to hard-working neighbours. The easiest way is to give notice a few days before in the village that plants will be given at a certain time one evening at the garden yard as far as the spare stock will go.

In the spring some packets of hardy flower seeds are always welcome gifts in cottage gardens, such seeds as are offered by the leading seed houses by weight at very moderate prices. Many kind people have plenty of spare time on their hands, and if the thought only occurred to them they would be glad to put some of it to good use by making up and labelling packets of these seeds. The smaller the quantity in each packet the better, for annual seeds are always sown too thick, and even then neighbours to whom it is given will still further subdivide and exchange. In the autumn, now that strong hardy perennials are grown in all gardens, there must be quantities to spare for cottage neighbours. We shall remind our readers of this when the time comes.

Owners of country properties who have the good of their tenants at heart will ascertain if the cottages have proper gardens, if not they can immensely benefit them by providing allotments for cultivation, and perhaps giving seed Potatoes, or providing a hovel for tools. Some such substantial help to a deserving tenant is of a value to him quite out of proportion with the cost of its giving to the owner; it puts the man into a distinctly better position, and sensibly increases his interest in life, stimulating him to renewed efforts of industry and ingenuity, and the practice of

thrift, making him brighter and better all round, while the giving of such help costs but little.

INJUDICIOUS BOTANISING.

ALL lovers of flowers, including botanists, will feel grateful to the editors of *THE GARDEN* for their remarks on this subject (see page 425), because they will probably reach many thoughtless offenders, as well as those who have the power and influence to discourage the practice of collecting scarce plants. The rooting up of common wild flowers has robbed the neighbourhood of most towns and holiday resorts of half of their charms, and the result is sheer waste, because few of the many who carry them away succeed in cultivating them, even if they try. For teaching purposes the commonest plants, generally speaking, are the most suitable, as it is of more importance to have a knowledge of them than of the rarer ones. The true botanist is an artist, if not in practice at least in sentiment and by nature, and the Primrose, Poppy, Ox-eye Daisy, and scores of other common flowers appeal more strongly to his sense of beauty than most of the rarer ones, which he likes to know but is content to leave undisturbed. I have always maintained that botanical teaching should begin with the very commonest wild and cultivated plants, because it is of more importance to know common things, and because a large majority of the pupils will never have the time, even if they have the inclination, to obtain a wider knowledge of botany. The practice of making collections of dried plants is ever on the increase, as is also that of offering prizes for collections of wild flowers at local flower shows. I should like to repeat here what I have often written before, that importance should be given to the quality of the specimens and the correct naming of dried collections, and to the artistic arrangement and correct naming of fresh collections rather than to rarity. Indeed, I would not give any points for rarity in such competitions.

W. BOTTING HEMSLEY,

Keeper of the Herbarium,

Royal Gardens, Kew.

Les Terres, Havelot, Guernsey.

NEW AND RARE PLANTS.

EACH of the following obtained an award of merit when exhibited before the Floral Committee of the Royal Horticultural Society on June 18:

GLORIOSA LUTEA.—We are unable to state whether this is a true species or a yellow-flowered form of the well-known *G. superba*. The specimens exhibited had flowers with the same undulated segments as in the old form, and of a soft yet decided pale yellow tone. The plants from which the flowers were taken were sent home from Rhodesia and exhibited by the Hon. Mrs. Evelyn Cecil, Lytchett Heath, Poole (gardener, Mr. Cox).

DICTAMNUS CAUCASICUS.—This is not a novelty

but an exceedingly fine plant, that has never before been shown as it was on Tuesday, June 18, when its reddish inflorescences attracted much attention. It is much redder in colour and bolder and more attractive in growth than the common *Fraxinella*. The specimens shown were fully 4 feet high. It was exhibited by Mr. Amos Perry, Winchmore Hill.

SEDUM KAMTSCHATICUM FOL. VAR.—A pretty variegated form of a well-known *Sedum*, that for purposes of ordinary bedding should almost displace the well-known *Mesembryanthemum cordifolium fol. var.* In the *Sedum* yellow and red mingle freely, hence the pretty effect of the mass. On the rockery the plant should also prove of service, and, being quite hardy, should be freely planted in the more warm and sunny positions. From Mr. Amos Perry, Winchmore Hill.

ASPLENIUM TRICHOMANES BIPINNATUM.—A most interesting break to lovers of hardy Ferns is this distinctly bipinnate form of the well-known black-ribbed Spleenwort, of which a perfectly developed example was shown. Exhibited by Mr. Charles T. Druery, Acton.

CARNATION DUCHESS OF RONBURGHE (Gow).—A finely-formed flower of the yellow-ground fancy type of Carnation. The ground colour is pale yellow and the markings are purple and red of varying shades. It was raised by Mr. Gow of Kelso, and is a flower of merit, strong and vigorous in growth, and a good border kind also. Sent by Mr. James Douglas, Great Bookham.

TEA ROSE LADY ROBERTS.—This is one of the most exquisite Roses we have seen, the flowers, in bud and more fully developed, all displaying the high character of this variety, while the depth of the bud and the exquisite finish and substance of the petals were equally striking. Smoothness of petal is also a strong point, while the colour varies from soft apricot or buff-yellow to richer and almost red tones. It is probably one of a new series of beautiful Tea Roses. Exhibited by Messrs. Frank Cant and Co., Colchester.

NOTES OF THE WEEK.

Awards at Chiswick.—An unusually full meeting of the Royal Horticultural Society's Fruit Committee was held at Chiswick on the 20th inst. when early Peas and Lettuces were examined. The Pea trial comprised ninety-four varieties, chiefly new, and a better one never has been seen there, the growth in all cases being first rate. Awards of merit were granted to Sutton's Harbinger, very early (18 inches), Duchess of York (5 feet), and to Ideal (4 feet); also to Carter's King Edward VII. (4 feet), and to Laxton's Ameer (5 feet), a well known variety. All these are wrinkled Marrows, and of great excellence. Similar awards were also made to Lettuces St. Albans Hall (compact Green Cos), Early Perfection (Green Cos, slightly earlier than the preceding), King Boston (a fine green Cabbage variety), Continuity (red leaved, and very fine), Little Gem (solid early white), and Tom Thumb (quite small), specially honoured for frame culture.

Examination in horticulture.—The annual examination in the principles and practice of horticulture, under the auspices of the Royal Horticultural Society, was held on April 24, 225 papers being sent in. Three hundred marks were

allotted as a maximum, and all candidates who obtained 200 marks and upwards were placed in the first class. The total number was 109, or 48.4 per cent. The highest number of marks, 290, was awarded to Miss Ella M. Watkins, from the Horticultural College, Swanley, Kent. Those who secured 150 and less than 200 marks were placed in the second class. The number was 85, or 37.7 per cent. Those who obtained 100 marks and upwards were ranked in the third class. The number was 25, or 11.1 per cent. Six candidates, obtaining less than 100 marks, were not placed. Comparing these results with those of the last two years the entry has slightly decreased, viz., from 236 in 1900 to 225 in 1901; both are, however, greatly in excess of the number of entries, viz., 165 in 1899. It will be noticed that the percentages have fallen in the first and third classes, viz., from 60 to 48 in the former, and from 13 to 11 in the latter; but in the second class it has risen from 26 to nearly 38; that is as compared with the results of 1900. The lowering of the percentages of the first class may be attributed to a slightly increased difficulty in some of the questions, more especially in the "principles." It was felt by the examiners that the "requirements" drawn up some years ago scarcely met the increased knowledge of many students, especially when prepared at the various horticultural colleges. A new syllabus of botanical requirements will be issued for 1902. The decrease in the percentages of the third class is a good sign, as it indicates a greater preparedness in the majority of the examinees. A scholarship of £25 a year for two years is promised for 1901 by Henry Wood, Esq., which will be continued in 1902 by F. G. Ivey, Esq., both gentlemen being members of the Court of the Worshipful Company of Gardeners, for the candidate obtaining the highest number of marks.

Aubrietias.—I have read with interest the notes of your correspondent "K," in your last issue, on these free-blooming and most ornamental hardy trailing plants, as I grow almost all the varieties mentioned by him. The one exception is that to the length of whose name he very sensibly objects, *Souvenir de William Ingram*. Some years ago I wrote to the present head gardener at Belvoir Castle to ask him kindly to send me a few flowers of this variety, named after his predecessor. He promptly and courteously complied with my request, and kindly offered to send me a few plants if I wished for them after having seen the flowers. While thanking him for his kind offer, I declined to avail myself of it, as I had brighter colours and larger flowers amongst the plants raised from a packet of Belgian seed received from a nurseryman at Ghent merely as hybrid *Aubrietias*. I do not at all care for the variety *Belle de Bade* or *Beauty of Baden-Baden*, as, while by far the largest individual flower of all those known to me, it is pale and dull in colour and a bad doer, of delicate constitution, in fact, and I think not worth growing. I was also disappointed with the variety *Fire King*, as its colour is by no means fiery, and I consider that I have better things among my Belgian seedlings. *Dr. Mules* is a very beautiful shade of colour, which I consider a decided acquisition. The last new variety which I have sent for but have not yet received is *A. rothesayana*, or *rothesiana*, raised and now being distributed by Messrs. Dobbie and Co. of Rothesay, Scotland. It is described by them as being distinct from any variety known to them, having flowers of a deep blue colour and of good habit.—W. E. GUMBLETON.

Rose Papa Gontier.—There is probably no Rose with a more beautiful shell-like petal than this. Its handsome, smooth, and long buds of a glowing crimson colour are charming in the extreme. As a bedding variety the stiff growths and natural upright habit make it an ideal kind for this purpose. Although it does not give the brilliant effect to be obtained from *Princesse de Sagan*, *Grüß an Teplitz*, or *Marquise de Salisbury*, there is no better crimson kind for midwinter forcing. Where high-coloured Roses are valued, then *Papa Gontier* should be one of them. Plants potted in autumn and kept outdoors for a few months, and then

transferred to a cold pit, are splendid for forcing the following year. They need not be repotted for two years, in fact it would be best not to do so. By mixing a little artificial manure in the soil when potting the plants will obtain all they require if assisted with waterings of liquid manure when in full growth.—P.

The yellow tree Lupin.—Mr. Robert Milne sends from Ingatstone, Essex, photographs of this beautiful flower, with the following note:—"The aspect is full south. The plant is in its second season. It was put in as a cutting in October, 1899. The top sprays have been about 8 feet from the ground."

Rose Purity.—I cannot imagine why this Rose has been classified as a Hybrid Bourbon. I should say if the late Mr. Bennett had introduced this variety, which I believe was of his own raising, that he would not have hesitated to place it among the Hybrid Teas. The clear Tea-like petals and exquisite shape give one the impression that there is more Tea blood in its constitution than Bourbon. But it will soon be some one's duty to invent a new class unless these Hybrids are all grouped under the one heading of "Hybrids," which would surely answer all purposes. Those that flower a second time could be so designated that the uninitiated would know how to plant them. An isolated bloom in autumn from a variety does not give that variety a claim to be called perpetual. Those Roses only are perpetual that blossom late with the freedom of *Marie Van Houtte*, *La France*, *Grüß an Teplitz*, *Camoens*, *Enchantress*, and such like.—P.

Diostea juncea at Kew.—This very rare, singular, yet pretty shrub, is flowering freely in a border near the Fern houses at Kew. The principal specimen is about 10 feet high, and in its loose growth and the green colour of its shoots it suggests when out of flower a spare growing bush of *Genista aethnensis*, though it belongs to a totally different order, viz., *Verbenaceae*. While the main branches are ascending, the minor branchlets are slender, more or less drooping, and clothed with green bark. The leaves, which are arranged in opposite pairs, are generally less than an inch long, ovate oblong in shape, and rather fleshy. The flowers, which impart a very notable feature to the plant, are individually less than half an inch in length, tubular in shape, and of a pale lilac tint. They are arranged in small but thickly crowded spikes, and borne very plentifully. This *Diostea* is a native of the Andes of the Argentine and Chilean region, where it occurs at an elevation of 3,000 feet to 5,000 feet. It is somewhat variable in character, and prolific in synonyms, being known besides that at the head of this note as *Diostea chamadryfolia*, *Lippia chamadryfolia*, *Lippia juncea*, and *Verbena juncea*.—H. P.

Rosa Majalis.—This has all the appearance of being an extra vigorous form of the *Pompon Rose De Meaux*, except that the flowers are a little paler in tint. It is wonderfully free in flowering, the specimen at Kew being smothered with blossom, and it is sure to be welcome where the garden kinds are cherished.—P.

Amorphophallus titanum in flower at Kew.—In 1889 an inflorescence of this wonderful Aroid was produced at Kew, that being the first, and until the present time the only one produced in this country. The gigantic proportions of the leaf and inflorescence are well shown by the life-size picture of the plant on the ceiling of No. 3 museum, and people visiting Kew within the next few days will now be able to see a living inflorescence. The earliest account of the plant was published in 1878, an extract from a letter written by Dr. Beccari to the Marchese Corsi Salviati describing the finding of a giant Aroid at *Ajer Mantion* in the *Padang Province* of *Sumatra*. In later descriptions of the plant by Dr. Beccari and by Mr. Forbes records of the largest plants seen are given. Some of the dimensions are as follows: Tuber, 6½ feet in circumference; leaf stalk, 17 feet high; head, 45 feet round; base of stem, 2 feet 7 inches in circumference; spadix, 3 feet 3 inches high, 6 inches through, spathe taking two full-grown men with outstretched arms to clasp. The plant

that flowered at Kew in 1889 was grown from a seedling, and was little more than ten years old. When it flowered the tuber weighed 57lb., and was 6 feet 9 inches round. The spathe was 3 feet long and 4 feet across, the spadix being 5 feet long and 10 inches in diameter. During the time of flowering the tuber lost 9lb. in weight. The spathe is showy, being reddish on the inside and greenish outside. As with other *Amorphophallus*, the inflorescence is accompanied by a very disagreeable odour, which makes its short life the less regrettable.—W. D.

Lilium Lowi at Kew.—The specific name of this Lily is given in honour of Messrs. Low, who were mainly instrumental in introducing to cultivation that delightful series of Lilies from Upper Burmah, commencing with *L. nepalense* in 1888, and ending with this species (*Lowi*) in 1891 or 1892. Between these two other species made their appearance, viz., *L. sulphureum* (*wallichianum superbum*), which has proved to be the most vigorous of the four. The other (*L. primulinum*) was shown once by Messrs. Low as *L. claptonense*, but I have not seen it since, and I do not think it is now in cultivation. Concerning *L. Lowi*, it was for some time a very scarce Lily, and for a year or two after its introduction was quoted in some catalogues at 10 guineas a bulb, while it is now difficult to obtain. It is essentially a greenhouse species, and last year some specimens planted out in the new wing of the temperate house at Kew were very fine, while it is now beautifully in flower in the Heath house there. The blossoms of this are more or less bell-shaped, with the tips of the segments reflexed. The colour is white, slightly tinged with green on the exterior, and spotted with crimson within, but in both of these features there is a good deal of individual variation. Singularly enough the bulbs of these Lilies, with those of *L. neilgherrense* and the Chinese *L. Henryi*, bear a great general resemblance to one another. True, some individual bulbs may be selected with almost absolute certainty, but, on the other hand, many are very doubtful. Roots comparatively few in number and of a deep descending nature are common to all of the above.—T.

Anemone dichotoma.—A casual glance at this pretty Windflower might make one think that it was a loose-growing form of *A. narcissiflora*, but it is quite distinct when looked at properly. It has been doing very well here this year, and those who at first sight mistook it for *A. narcissiflora* had only to have the two compared to see that they were distinct. It has not the many-flowered umbels of the other species, and its larger blooms are tinged beneath with red, though pure white above. When strongly grown, it sometimes reaches a height of about 1½ feet, but it is prettier when only 9 inches or 1 foot high. The foliage is elegant, and altogether this Forked Windflower is a capital plant for the shadier portions of the rock garden or for planting in woods. The "*Index Kewensis*" refers *A. pennsylvanica* to this species, but Britton and Brown's "*Illustrated Flora of the Northern United States, Canada, &c.*" calls it *A. canadensis*, and says that *A. dichotoma* "is a Siberian species with glabrous ovate achenes." The plant in cultivation is probably the American form.—S. A.

Roses and "The Garden."—Our issue of July 13 will be devoted especially to the Rose. Many illustrations will be given showing beautiful ways of planting, uses of the newer and much talked of hybrids, and phases of culture which, judging from the letters of enquiry we have recently received, are interesting to those who wish for something better than the old "rosery" of iron stakes and wonderful trellising. Rose growing in England has undergone a much-needed change, and we have endeavoured, and shall do so in the future, to help our readers in making their gardens more beautiful by the right use of the most precious flower that can be planted in our pleasure grounds and even our woodlands. Special articles will be contributed by leading rosarians, and a full report will be given of the great exhibition of the National Rose Society in the Inner Temple Gardens.

Double-flowered Lilacs.—For the last fifteen or sixteen years increased interest has been shown in the double-flowered Lilacs, a number of new varieties having since that time been distributed by M. Lemoine, of Nancy. Though these double forms are preferred by many, they do not, at least from my point of view, form such handsome bushes in the open ground as the single kinds, but that is, of course, a matter of opinion. Their style of growth is stiffer and the masses of flowers are less striking than the clusters of single blossoms. Of these last there are now some delightful forms in cultivation of comparatively recent date, while some of the old kinds also hold their own. If the practice of grafting Lilacs were discontinued it would be a decided advantage, as suckers are always a great nuisance in the case of grafted or budded plants.—T.

The Hawthorn in the North.—Early in June the Hawthorn is very beautiful. Those who have travelled from Berwick to Edinburgh will have noticed large masses of trees in the fields, and although near the East Coast the winds drive the trees one way the masses of bloom are remarkable. I recently walked through some public grounds and was delighted to see the care taken of these trees. Even near large smoky towns and close to coal-pits they thrive well, breaking the barren aspect of the country in the districts named. In the Duke of Northumberland's splendid park and the Alnwick Castle grounds are groups of Hawthorns, mostly of the single white variety. Some are very old.—TRAVELLER.

Heuchera sanguinea.—Small groups are making a welcome display, and are more appreciated through their comparative failure last season. Their small yet elegant spikes of blossom are not more than 12 inches high, and stand out distinctly from their pretty almost circular leaves. The coral crimson blossoms are graceful and long lasting.—C. A. H.

Iris versicolor.—One would not like to appear to depreciate the beauty or value of the favourite German Irises—a convenient, if incorrect term by which the bearded Irises are so widely known—but, at the same time, we ought not to forget the other Irises suitable for the border. This North American species is common enough in its own country, being, we are told, distributed from Newfoundland to Manitoba, and as far south as Arkansas and Florida, yet it is little grown in private gardens in this country. It is naturally a moisture-loving plant, growing in marshes, thickets, and wet meadows, but it seems here to have an almost sublime indifference to whether it has moisture or not in our gardens. It is now a good few years since Mr. J. N. Gerard kindly sent me a little plant, and it has been growing in one of the driest of my borders ever since, and has seemed quite content and prosperous, even when it was not artificially watered in the driest of weather. Nor do these things seem to affect its height any more than its flowering, and it is said to grow from 2 feet to 3 feet high in its own land, and measured here to-day it just reaches 3 feet. What it might attain to in water I cannot say. While this larger blue Flag has much smaller blooms than our bearded Flag Irises, they are pretty with their combination of violet-blue, variegated with white, yellow, and green. These are without a beard or crest, for this Iris belongs to the Apogon section. *Iris versicolor* might be largely planted in wild gardens, as well as in borders, as a change and variety among the others of the genus which are so much appreciated, but which it cannot hope to supersede.—S. ARNOTT.

Dictamnus caucasicus.—This fine Fraxinella is, probably correctly, considered to be only a form of the typical *D. albus*, but its superior vigour and greater stature, as well as its larger flowers, make one see some force in the other varietal name it bears—that of *giganteus*. Its colour is that of the ordinary *D. Fraxinella* of old days, which I take to be the same as that called in the "Kew Hand-list" *D. albus* var. *purpureus*, but the larger size of the blooms and the longer and taller spikes on which they are produced make it a more effective border flower. It shares

with the ordinary forms the peculiar property of exhaling an inflammable vapour, which can be set afire by applying a lighted match to it on a calm day. This has often been doubted, but it is quite correct when done in the open, although I have never tried a recommendation to take a portion of the plant into a dark room and apply to it a candle or a match. Probably one might see the flame better, but I prefer to see the Fraxinella in growth. It seems singular that it is uninjured by the fiery ordeal to which it is subjected. The whole plant has a strong resinous odour when touched. It has been lately remarked that the common *Dictamnus* is one of the best drought-resisting plants. This is not absolutely correct on a sandy subsoil.—S. A.

Linaria origanifolia is one of the pretty alpine which sometimes disappoint one by failing to stand some winters, although it is usually hardy enough to resist the severity of an ordinary one. It is always a disappointment when it is lost, as it is a pretty little plant when in bloom with its multitude of small bluish violet flowers and its rather thick foliage. It is in flower just now, and has been blooming for several weeks. It will also persist for some time, so that it is very acceptable, even although we are just coming to the time when the alpine Campanulas will be at their best and will give us various shades of blue, purple, or lilac, some almost corresponding to the tone of *L. origanifolia* when seen at a little distance. I have not tried it in the wall garden, but it does very well elsewhere, and it now occupies an open sunny place on a dry rockery, which seems to suit it better than other places where I have tried it. I have never seen any self-grown seedlings about any of the plants of this species, which I have now grown for a good number of years.—S. ARNOTT, *Carsethorn, by Dumfries, N.B.*

Bauera rubioides.—This is one of the very few shrubby representatives of Saxifrageæ suitable for indoor culture, and one of the best. It is an Australian plant of neat compact habit, bearing large quantities of small linear leaves arranged in sixes—three from each side of the stem—and solitary red flowers from every axil on the upper part of the stem. It succeeds in a mixture of peat, loam, and sand, and requires to be stopped frequently in spring. Although flowers are borne at almost all seasons, late winter is the time when they are most abundant. Each flower is a third of an inch across, red, with a white mark down the middle of each petal. A white variety is in cultivation, but is seldom seen. Cuttings root readily at all times of the year, and form the best means of propagation. During summer the plants should be plunged out of doors or stood in a cold frame. Protection from frost is all that is necessary in winter.—W. D.

Yellow-horned Poppy.—This is a wild plant, and though not often seen in gardens is well worthy of a place, for those who pass it could hardly fail to say what a pretty patch of colour. Autumn-sown seeds are now up; if lifted with a good root they will flower this autumn. With its bright flowers, firm leaves, thick and strong (not like a summer Poppy), and long horned seed-pods, when grown in a bank it is a most effective plant. The first time I tried it I was living at Upper Norwood, and had brought up some wild seedlings from Hythe, where there were then any number of plants to be found on the sands at the back of the beach, also at other seaside places. The plants brought from Hythe were planted at Norwood in clumps, and bloomed well till late in the autumn; they grew much stronger and finer when in the heavy Norwood soil than I have ever seen them on sand banks by the sea. A few years ago numbers of this plant grew half-way up Peak Hill at Sidmouth, but in this spot there are none now; it is always the case where a few plants grow wild of any special kind that they are soon done away with by excursionists.—A. H. TYRRELL, *Kensington.*

Hops as a vegetable.—Now when the warm weather sets in and salads are more sought after than any vegetable served hot, it is nice now and then to have some little dish out of the

common, especially when this can be got for the trouble of picking or cutting. It is worth a trial, and I think the result will be found most satisfactory. The young tops of the Hops, picked when they are about 6 inches long, or tops of the wild Hop, should be tied in bunches and boiled; the small leaves should be picked off just as you would the scales of Asparagus. A very little vinegar should be put in the water. When cold serve in a pile, each piece being placed longways, and pour a good Tartare sauce over, which is all the better for a few Capers put through. A few cold boiled Peas or finely-cut Carrots can be put on as a garnish. Watercress boiled, laid on a silver dish in just the same way, with flakes of cold boiled salmon over a good thick spreading of well-cooked Peas, and a thick salad sauce over, with a few sliced Tomatoes on top, will be found very good. The roots of the Sea Holly cooked and eaten cold (I have written about this plant before as a vegetable not served hot) will be found excellent either as a salad or supper dish. I have numbers of first-class recipes of salad and other cold sauces which I shall be pleased to give. I wonder if any of the readers of THE GARDEN have eaten a Melon or Pine salad?—A. H. TYRRELL, *Kensington.*

Lilium rubellum in Kent.—In my notes on Lilies, which appeared in THE GARDEN of June 8, I unintentionally maligned my three bulbs of *Lilium rubellum*. I accused them of showing resentment at a recent move and only vouchsafing one spike between them. The three spikes eventually appeared, one being a blank, the second having one flower, and the third two flowers only. It was not a grand display I admit, but the colour of the flowers was simply glorious, and I hope for better things next year. My neighbour (Mr. J. Carrington Ley) saw these Lilies in bloom, and was much struck with the beauty of the colouring. So perhaps I have done well to move the bulbs to a dry bank in light soil mixed with stones near the surface, under a greedy-rooted Lilac bush, following the suggestion of (I think) Mr. Barr in a former number of THE GARDEN. It may be as well to add that these Lilies are not exposed to the sun after 2 p.m. or 3 p.m.—Captain S. G. REID, *Yalding, Kent.*

Rosa webbiana.—This is one of the smallest leaved species in the Kew collection, the tiny leaflets, no more than a quarter of an inch in diameter, are produced generally in nines, and are very elegant upon the strong growing bush. The smallness of the foliage accentuates the large whitish spines. The flowers are pale mauve colour, and fairly large for a single Rose. This variety would make a very interesting subject for the garden, but it should be well isolated to obtain the true effect which it will produce.—P.

Schizanthus wisetonensis.—I notice in a contemporary a correspondent refers to this plant exhibited by Messrs. Hugh Low and Co. at Paris as being the result of careful selection from the old varieties. I am not prepared to contradict this statement, but surely a plant which shows such marked improvement on the old pinnatus, indeed scarcely any resemblance to this variety, must be rather more than "a careful selection." The ragged, ungainly old pinnatus variety shows no similarity to the compact *S. wisetonensis*, which I understand needs no support. If this plant can be easily brought to the perfection as exhibited at the Temple show it will form a most useful decorative subject. I am not at all sure how it should be grown, and should be obliged if you could enlighten me.—L. JOHN, *Torville, Prospect Hill, Walthamstow.*

Messrs. Clibran and Sons' exhibit at the recent York gala was, unfortunately, not noticed in our report of this event last week. The miscellaneous group of plants exhibited by Messrs. Clibran on that occasion comprised a splendid lot of the newer varieties of Crotons, of which a speciality is made in the Altrincham nurseries. *Calla elliotiana* (the golden-flowered Arum Lily), *Dracæna Doucetti*, the most handsome of *Dracænas*, and *Aralia Veitchii* were particularly well represented, and conspicuous amongst many other stove and greenhouse plants.

Magnolia parviflora at Kew.—This species has been often described in THE GARDEN, but we have never seen a more beautiful specimen than that in flower at Kew. It is several feet high and a mass of flowers.

New Water Lilies.—The new Water Lilies Mr. Hudson, of Gunnersbury House, staged at York were arranged in flat, wide shallow pans, and were beautifully fresh, each set being shown with foliage. Many of the fine hybrids raised by M. Marliac were exhibited. *Nymphaea robinsoniana*, one of the best Mr. Hudson staged, appears to grow freely. Another very beautiful variety was *N. ignea*, also *N. lucida*, *N. ellisiana* and *flamea*, were beautiful flowers. *Alba candidissima* was very fine, and should make a valuable plant for large ponds. A few flowers of *N. stellata* were much admired; the soft colour of this splendid flower will make it a great favourite, and this plant with Mr. Hudson appears to be very robust. The grower deserves much praise for the collection and the way he has brought these interesting plants into cultivation in this country. —G. WYTHES.

Kalanchoe flammea.—One of the most interesting groups at the recent York Gala show consisted of several plants of *Kalanchoe flammea* from Messrs. Veitch, Limited, Chelsea. The plants staged at the recent Temple show were not so bright as at York, doubtless a little warmth had been used to forward them for the earlier show. The colours were splendid, and I was pleased to see that several of the plants were even superior in colour, size of bloom, and habit to the parent plant staged at the Chiswick Conference in 1899. The *Kalanchoe* promises to be a valuable addition to our cool greenhouse plants, and what makes it more valuable is the distinct colour of its flowers. It is easily grown from seed leaves or cuttings, and the flowers last a long time in water. —G. WYTHES.

Messrs. Rivers' fruit trees at York Gala Show.—The trees shown by Messrs. Rivers at the above show were greatly admired and well deserved the gold medal awarded them. I do not remember to have seen better fruit trees in pots than those shown on this occasion. I have seen larger trees, but not better, and in my opinion the exhibit at York was finer than that at the Temple, as the trees carried more fruit and there was greater variety. In this splendid collection note must be made of the collection of Nectarines. These were staged in variety, prominent being fine examples of Lord Napier, Cardinal, and Humboldt; some good trees of Peach Magdala, one of the firm's seedlings, a beautiful Nectarine-like fruit, evidently a good pot tree. There were some splendid Plums, and more variety than one expects from pot culture; also some excellent fruits of Early Rivers', Belle d'Orleans, and other Cherries, bearing heavy crops of fruit. The trees were noticeable for their productiveness. —VISITOR.

Agricultural returns for Great Britain.—In the summary for the United Kingdom contained in the above manual, issued by the Board of Agriculture, it is stated that the area under all crops and grasses in 1898 was 47,792,000 acres; in 1899, 47,796,000 acres; and in 1900, 47,795,000 acres. Out of these totals, small fruit in 1898 covered 70,000 acres; in 1899, 77,000 acres; and in 1900, 79,000 acres; thus showing an increase in three years of 9,000 acres. Hops were grown on 50,000 acres in 1898, 52,000 acres in 1899, and 51,000 acres in 1900; while the acreage devoted to the cultivation of Flax in the United Kingdom is given as follows: 1898, 35,000 acres; 1899, 35,000 acres; and in 1900, 48,000 acres, an increase of 13,000 acres between 1899 and 1900.

A note from Shropshire.—It may perhaps interest some of your readers to know that in the garden here in Shropshire *Choisya ternata* stands the winter well. I have several large bushes lately covered with bloom. *Carpenteria californica* is full of buds and *Buddleia Colvillei* in flower. Both of these have been planted out for several years; they have the protection of a wall. *Eucryphia pinnatifida* seems quite hardy; my plant is about 12 feet high. It is a very lovely

shrub. *Fremontia californica* is uncertain. I have had several plants which have done well for a time and then suddenly died. I may add that my garden stands high on red sandstone, but is sheltered by trees from north and east. —T. M. BULKELEY-OWEN.

Pæonia lutea.—This beautiful new species from Yunnan, China, discovered by the Abbé Delavay, has recently flowered in the Royal Gardens, Kew. It may be called a yellow tree Peony, and will probably be much used by hybridists. The flowers are about $3\frac{1}{2}$ inches across, deep lemon-yellow, and quite unlike those of any species in existence. We hope shortly to illustrate this interesting and important introduction.

Buddleia Colvillei.—To your issue of June 15 Mr. W. Dallimore sends a very interesting note on this plant. I think its hardiness is greater than is supposed. I had my first plant in 1886, and it grew but slowly at first; it passed through the hard winter of 1895 comparatively undamaged, whilst a neighbouring plant of *B. globosa* was cut to the ground. *B. Colvillei* flowered with me the first time in 1896, and it has flowered well every year since; it has now over forty racemes of flower buds ready to come out on a bush 12 feet high and 7 feet or 8 feet through. —B. E. C. CHAMBERS, *Grayswood Hill, Haslemere.*

THE ROSE GARDEN.

PROMISE OF THE SEASON.

BACKWARD as the season of 1901 has often been considered, I do not think the same can be said as regards our Roses. Certainly we had more flowers in the early and middle part of June than for many seasons past. Nor is this altogether owing to the greater number of early-flowering varieties, and although we have at the time of writing (June 15) a much colder wind, being due north-east, the few days of warm weather that preceded this brought on our Roses very rapidly. Some really pleasing bunches of flowers can be culled during the early part of June; in fact, it is not many occasions that I remember when they were more plentiful in what is the poet's month of Roses—early July being more generally applicable. The taste for what are called garden or decorative Roses has doubtless something to do with this, for are not most of our summer bloomers early? Such as some of the Chinas, Banksians, and others placed in warm corners because of their more tender nature. Nor have we had such severe spring or winter frosts in mid-Sussex as usual. Such early bloomers almost invariably grow late in the season, and the first point depends upon the proper ripening of their wood, followed by freedom from severe frosts during winter, and again in late spring, when the new growths are forming. We place such varieties in the warmest situations, and this means a succession of severe freezing and rapid thawing during bright frosty weather. The sun very quickly thaws the wood towards midday, only to be frozen once more a few hours later, so that our tender Roses have a severe test, and I believe we should do better with many if not placed in so warm, and, consequently, variable a situation.

I have had *Fortune's Yellow* very pretty this season, also *Purity*, and both of these are so early that any severe frost after the middle of February had usually been fatal to a good show of flowers, no matter how well the wood may have passed the rest of the winter months. These and the tender Banksians have been in full flower at the same time as the Copper and Yellow Austrians, both very hardy Roses and very seldom touched by frost. What yellow have we that beats the *Yellow Austrian* for intensity of colour? Even if fleeting in character, one cannot help but admire both this and the charming *Copper Austrian*, which cannot be beaten in colour, although known to have been growing in England over 300 years ago, and what remarkable changes have come to our Roses since then.

Among the Roses that have pleased even more than usual during the early party of June I may mention *Purity*, a Rose that is perfect in form, and is probably our best pure white pillar Rose. Then we have had *Laurette Messimy*, *Mme. Eugene Resal*, *Cramoie Supérieure*, *Tellenberg*, *Queen Mab*, *Cora* and *Jean Bach Sisley*, all good among the Chinas; nor must our old friends of many years be forgotten—the *Common Monthly* or *Old Blush* (1796) and the *Old Crimson* (1810); also *Fabvier*, a Rose I do not know the date of, are still hard to beat, whether early or late in the season. Then we have *Rainbow*, *Virginia*—a little known Rose of the *Mme. Hoste* type, but much earlier—*Bardou Job*, with its intensely deep crimson and maroon shadings, *Crimson Rambler*, *Elie Morel*, *Lady Mary Fitzwilliam*, *l'Idéal* (one of the sweetest of all Roses), *Anna Ollivier*, *Pauline Labonté*, *Papa Gontier*, all of the rugosas, A. K. Williams, and *Mlle. Gabrielle Luizet*; even the usually late-flowering *Baroness Rothschild* has been by no means bad thus early in June.

Of course we have *Gloire de Dijon* and *Carmine Pillar* in good form. Then the Hybrid Sweet Briars. What can be more charming than these when planted in a block to hide an undesirable corner? Shoots of 12 feet or more and perfectly smothered in trusses of blossom. Very sweet indeed have these been during a shower, and both early and late in the day. My favourites are *Amy Robsart*, deep rose; *Anne of Gierstein*, dark crimson; *Jeannie Deans*, scarlet-crimson and semi-double; *Lady Penzance*, of Copper Austrian shades; *Meg Merrilies*, deep crimson; and the only two that have proved themselves autumnal bloomers here, viz., *Catherine Leyton*, soft rosy pink, and *Lucy Bertram*, the deepest of crimsons. I was fortunate enough to be one of the first privileged to see these in their full beauty in 1893, and like them more every year since growing them. Many *Teas* and *Noisettes* have also been beautiful, and our own *Rose (Sunrise)* has not been the least so during early June. Although imagined to be tender by some new growers, I can confidently say it has been one of our best for standing the winters of the past ten years.

Several of the newer Roses are really excellent, and I think the palm belongs to *Liberty*, a Hybrid Tea, that has much the appearance of a very free-flowering Hybrid Perpetual. It is a very deep, self-coloured crimson, perfect in form, lasts a very long time, has exquisite scent, and has never once been out of bloom, summer or winter, since we have had it. A few further notes, dealing with the new varieties, may perhaps form another short article.

Uckfield.

A. PIPER.

AMATEURS' PERPLEXITIES

MUSCAT OF ALEXANDRIA GRAPES FAILING.

SEND you a few berries of Muscat of Alexandria Grape which are very badly spotted. The health of the Vines is good, but with very strong leaves and bunches. I should be much obliged if you could find out whether it is a disease or what is really the cause of the spots which are in the inside of the berries. Some have turned brown and are quite soft or rotten; also what would be the best way of treatment. A. T.

[Your Muscat berries are both shanked and scalded; the latter can easily be remedied, but the former is more difficult. The scalding at times appears due to bad ventilation or bad glass, and also if the foliage has had free play for a time and is then stopped close and if the Vines are near the glass the sun reaches the berries and scalds them. Another point, Muscats scald sooner than Hamburgs or other Grapes; indeed, in our opinion the *Madresfield Court* is one of the worst in this respect. Cover the glass thinly with whitening and milk for a short time, as that will arrest the scalding. You ask if the spot is a disease. The

scalding of course is not, but the soft, imperfectly finished berries with a dried up footstalk are certainly the result of disease, but one that need not alarm you, as it can be checked if taken in hand thoroughly.

It is often brought about by over-cropping the Vine in a young state. Vines when young crop so freely that they are often left to mature far too many bunches. Now the root action of the Vine is not strong enough to support such a heavy crop.

Have your Vines been over-cropped? We think they are young from your letter, but you give no details as to age, treatment, or soil; the latter in some instances is answerable for failures. The roots have not sufficient nourishment.

Vines that are heavily cropped do well for a time, then shanking or spotting of berries commences, and the stalks shrivel before the berries are ripe. Muscat of Alexandria is more subject to this than others. The same thing occurs in poor thin porous soils—the roots lack food. What is your soil? Do you feed? And though you say the Vines are strong there is something wrong for the fruit to finish thus. You may have a heavier crop this season than usual; if so we advise you to allow the later lateral growths to grow away freely. Do not stop the terminals for the next two months; also clear off the bunches as soon as you can. Feed the roots freely, and give the Vines as good treatment for the next two months as you would early in the season. Shade the house lightly and mulch the surface roots with good manure. Syringe the rods freely and you will encourage new root action, and next year crop lightly.—Eds.]

TREATMENT OF CERTAIN PLANTS.

IN reply to Chaber, Montpellier, France, the following is in answer to the questions about the suitable treatment of certain plants and the comparative appearance of some kinds of Iris.

Lewisia rediviva is a North American plant, suited for a sunny spot in the rock garden where the root will receive plenty of moisture. It dries up completely after flowering, and comes to life again the next season. It flourishes in well-drained loam and peat with grit.

Campanula Raineri should be grown in deep fissures of perpendicular rocks in sunshine in a soil of loam and granitic sand, not a soil rich in humus, which would cause it to degenerate and lose its proper character.

Saxifraga sarmientosa must be kept cool and damp, either in shady rockery or border-edge where it is never dried up, or in pots frequently watered. In England it is a favourite plant for hanging baskets.

Iris ochroleuca (flowers white and yellow) will thrive in a variety of soils, but prefers one that is damp and of a rich loam.

I. sibirica is quite a marsh plant, thriving close to the edge of water, but also content with any place in a garden except the very driest.

I. stenogyne, or, more correctly, *I. guldenstädtiana* (flowers white and yellow) succeeds with ordinary garden culture, growing about 2 feet high.

I. robinsoniana (white and yellow) is probably a good plant for the edge of a pond in the

south of France. It is a native of a small island off the east coast of Australia, and is not generally hardy in England, though it has been flowered in the Isles of Scilly. There was a coloured plate and an interesting account of this fine plant in THE GARDEN, October 3, 1891.

Iris virginica (purple) does not require a specially wet place, though it likes a place rather damp than dry.

Iris laevigata (syn. *Kämpferi*) in Japan, where the summer is hotter than in England, grows actually in the water. In England it does best on the bank 1 foot or 2 feet away from the water. It is therefore probable that the damp-loving Irises in the hot and dry climate of Montpellier may demand a damper treatment than in the north. The comparative characters of the white and yellow-flowered Irises among these may be noted thus: *Iris ochroleuca* is a tall, upright plant with large white and yellow flowers, and long, sword-shaped leaves, growing

IRIS TECTORUM IN JAPAN.

THE superior brilliancy of *Iris Kämpferi* (*laevigata*) is perhaps the reason why this lovely Iris is so badly treated in Japan, for the only place where one sees it growing is on the tops of the straw roofs of farmhouses, where it is planted in order to make the roofs stronger to withstand the typhoons and high winds. For that reason the view from a hill of a small fishing village below is particularly picturesque just now, when these blossoms are at their best, although, of course, these flowers, growing in the stiff, sunburned clay cannot be compared to those grown in our fertile fields. The stock which was used for planting was from an old farmhouse, which had been modernised with a tiled roof, and consequently the plants had been thrown away. Taking pity on them we bought and brought them to Yokohama, planting them in our nurseries,



A FIELD OF IRIS TECTORUM IN JAPAN.

from 4 feet to 5 feet high: *I. guldenstädtiana* is also yellow and white, but only 2 feet high; *I. robinsoniana* is tall growing and has long, dark green leaves. All three have yellow and white flowers of rather stiff build and no beard, leaves more or less sword-shaped.

In *Iris sibirica* the flower is blue or white, and is also smooth. The character is quite unlike any of the yellow-flowered kinds. It is very neat and upright, the flower-stems rising in quite parallel lines, the leaves in a well-grown tuft are very numerous, from the crowns quickly growing into a crowded mass. They are long and linear, turning over at the tops.

Gumeras would be quite hardy in the South of France, but they are so very large that it would not be desirable to confine them in pots. A plant whose leaf diameter sometimes attains to 7 feet (over 2 metres) needs plenty of space for its root. They like rich loam and moisture, and are best planted at the edge of a pond or stream.

and how well they have repaid this care the accompanying photograph clearly shows.

A. UNGER (Boehmer and Co.).

Yokohama, Japan.

RECENT PLANT PORTRAITS.

THE number of the *Botanical Magazine* for June contains portraits of the following plants:

Crinum rhodanthum.—A native of Ngamiland. The entire head of this new South African Crinum is first represented on a double plate with the flowers presumably life-size. This is followed by a single plate showing the entire plant, with bulb and foliage much reduced. The flowers are very numerous, of a bright pink colour, but for a Crinum small in size. The bulb was presented by Mrs. Lugard to Kew, and flowered in 1899 in a tropical house.

Beschorneria Wrightii.—A native of Mexico. This is much the largest species of the five that

have as yet flowered at Kew and been figured in this work. It is most nearly allied to *B. decosteriana*, and has green tubular flowers produced in bunches of from two to five all up the stem. It is of caulescent habit of growth; the crown of about fifty leaves, from the centre of which the flower spike comes, being borne on a stem 18 inches high and 6 inches in diameter. It bloomed in the Mexican house in 1900.

Calanthe madagascariensis.—A native of Madagascar. Two forms of this exceedingly pretty dwarf-growing *Calanthe* are given on one plate, one of them with a bright rose-coloured and the other a yellow lip. The species is closely allied to *C. veratrifolia* and has deeply channelled undulate foliage.

Nymphaea flavo-virens.—A native of Mexico. This is a pretty pure white-flowered *Nymphaea* with conspicuous golden stamens. It is a near ally to *N. gracilis*.

The *Revue de l'Horticulture Belge* for June contains portraits of a double hybrid Indian *A. alea* named *Mme. Moreau*. A large-flowered and handsome variety.

Begonia Caledonia.—The pure white flowered form of the well-known winter-blooming species *Gloire de Lorraine*.

The June number of *Gartenflora* contains a portrait of *Agapanthus caulescens*, with large heads of deep blue flowers. The habit of growth is distinctly caulescent, which is quite new in this plant. It is said to be perfectly hardy.

The first number of the *Revue Horticole* for June contains a group of double *China Asters* *Plume d'autruche* in three colours, deep pink, pure white, and purple.

The second number of the same periodical for June figures *Vernonia archavate*, a very pretty small shrub introduced by Monsieur E. André, from Uruguay, and named by him after the director of the museum of natural history at Monte Video. It has narrow myrtle-like foliage and bunches of feathery rosy-purple flowers. It is a member of a very numerous family, of which as many as 512 species have been described, but very few of them have been introduced into cultivation. Plants of this new species can be obtained from Messrs. Nabonnand, of Golfe Juan, near Cannes, France. W. E. GUMBLETON.

THE FRUIT GARDEN.

A REMARKABLE VINE.

IT is but seldom that one meets with a Vine of the variety Foster's Seedling of such vigour and dimensions as the one here illustrated from a photograph taken in the Royal Gardens, Frogmore. This Vine is over thirty years of age, and this year has produced a crop of Grapes equal to, if not surpassing, that of any previous season. It now completely fills the Vinery in which it was planted, although from the position the stem occupies one is inclined to think that it could not have been planted with the idea of its eventually extending as it has since done, for a more curious and unsatisfactory place for planting a Vine could hardly be found in the house. As will be seen from the illustration, the spot selected was between the pathway and the back wall, and behind the double row of hot water pipes. Here the plant would obtain a minimum of sunshine, would be a long way from the glass, and in such a position a properly prepared border and careful planting would be an impossibility, for between the pathway and the wall is a space hardly 18 inches wide. However, the roots have evidently found



THE REMARKABLE FOSTER'S SEEDLING VINE AT FROGMORE.

conditions to their liking, for the Vine could not well be in a more flourishing state than it now is, and it need hardly be said that a large specimen of Foster's Seedling is invaluable. This is undoubtedly the best white Grape for forcing; it usually bears abundantly, ripens quickly, and is of a delicious flavour. It is only when allowed to extend and develop freely, as in this instance, that one is able to learn what the Vine is really capable of.

PEACH STIRLING CASTLE.

STIRLING Castle Peach is one of the best Peaches we have, and is equally suitable to either the amateur or professional gardener. It has now been in cultivation many years, and both out of doors and under glass has proved itself to be an excellent variety. Of medium size, delicious flavour, well coloured, and prolific, it is indispensable to every collection, whether this be large or small.

For forcing it is especially suited, and it succeeds particularly well in a second early house. It has the valuable property of not dropping its buds, as some varieties, when forced, are very liable to do, and also invariably comes into bloom quickly with quite gentle forcing.

An additional advantage is possessed by Stirling Castle Peach in that the stamens of its flowers always carry plenty of pollen, and all who have to do with the early forcing of fruit trees will know how a variety with this characteristic is appreciated, for a great drawback to many early-forced Peaches and Nectarines is their deficiency of pollen, making it almost impossible to obtain a satisfactory crop of fruit. Stirling Castle well deserves to be cultivated if only for the quantity of pollen it produces, that can be made use of for the fertilisation of other shy pollen-bearing varieties.

THE BEST VIBURNUMS.

THE three best deciduous Viburnums for gardens, or, at least, the most showy, are

V. Opulus var. *sterile*, *V. plicatum*, and *V. macrocephalum*. The first two are perfectly hardy; the last is better planted at the foot of a south wall than fully in the open. *V. Opulus* sterile is the barren form of the Guelder Rose, a shrub found wild in the hedges and thickets of Britain. It is a plant that loves good soil and abundant moisture, as, indeed, most Viburnums do. It is often used in shrubberies where it has to take its chance with other things, and its robust constitution renders it admirably adapted for this purpose. But to be seen at its best it ought to be grown as an isolated specimen or in a group on a lawn; it then makes a rounded bush, well furnished to the base, and grows ultimately 8 feet or 10 feet in height. The pure white trusses are 2 inches to 3 inches across, and appear in May and June at the ends of the branches, they are consequently scattered indiscriminately over the bush and have not the regular arrangement of *V. plicatum*.

V. plicatum is at last finding its way into gardens after more than half a century's comparative neglect. Without doubt, it is one of the very best of hardy shrubs. It is considerably dwarfer in habit than *V. Opulus* sterile, and grows more slowly in height. This character renders it very suitable for planting in beds or groups. Its trusses of flowers are 3 inches across, and they occur in pairs at each joint along the branches made the previous year. The branches mostly take a horizontal direction, and as all the trusses grow upwards they form two regular rows, and each branch gives a magnificent wreath of blossom when at its best.

As far as the individual truss of flowers is concerned, *V. macrocephalum* surpasses all others in size. It is rounded or somewhat pyramidal in outline and from 6 inches to 8 inches across; the flowers are 1 inch to 1½ inches in diameter and pure white. This fine plant is the barren form of a species (*V. Keteleeri*) which is in cultivation, but not common. As stated previously *V. macrocephalum*, if grown

out of doors, requires the protection of a wall for it to thrive really well; such, at least, is my experience near London. There are, of course, many parts of the kingdom, especially in the extreme south and south-west, where that would not be needed. It is now becoming popular pot plant for the conservatory; an excellent picture of a specimen grown in The Edinburgh Botanic Garden appeared in THE GARDEN of November 17, 1900.

W. J. BEAN.

AN ARTIST'S NOTE-BOOK.

CYPRIPEDIUM GUTTATUM.

A BEAUTIFUL hardy Orchid is this, white with purplish rose markings. Though a native of Europe and America, it is rarely seen in gardens. The plant from which the drawing was made was grown by Mr. Elwes in Gloucestershire, in a pot plunged in peat under a north wall and covered with a light in winter.

THE INDOOR GARDEN.

FREESIAS.

BUT few flowers give more pleasure at Christmas time than a small group of well-flowered Freesias in pots. To have this charming South African bulbous plant in blossom by then it is necessary to make preparations quite six months beforehand. Unless the bulbs are potted early there will be little chance of their reaching a flowering stage by Christmas, and everyone likes to have white flowers then, and those of the Freesia being so sweetly scented are therefore doubly welcome. It is impossible to endeavour to force the Freesia, for a great deal more harm than good will result, especially if a high temperature is given in the initial stages of culture. When the plants have so far developed as to have commenced to throw up the flowers, these can be made to open a few days earlier by putting the former into a warmer house, but to no appreciable extent can they be forced. If it is desired to have Freesias in flower over some length of time, the only satisfactory method of accomplishing this is to grow a succession of plants, potting up the bulbs, and starting them into growth at different times. Cool treatment I have always found to be essential to their successful cultivation, the bulbs then produce vigorous foliage and numerous well-developed flowers.

The bulk should be potted up about the middle of July, and the remainder at intervals of ten days or so until the end of August—such a method should provide a good display of flowers from just before Christmas until early spring. As a compost in which to pot the bulbs I have found nothing better than a mixture of fibrous loam, two-thirds; leaf-mould and dried cow manure, one-third; with a liberal addition of silver sand; 4½-inch pots are the most convenient, they are not so clumsy as the 6-inch pots, being much more easily moved about, and with proper care a pot of this size filled with Freesias will be a very pretty sight when the flowers are open. Of course, if the latter are merely required for cutting, then it would be advisable to make use of 6-inch pots or even 7-inch pots, for the more flowers that could be obtained from the one pot the fewer pots would be necessary, and a saving of labour effected. I, however, am referring to the culture of the Freesia as a plant to be left alone as much as possible when in flower, for as a pot plant it makes a beautiful display.

Before potting the bulbs, place them all in their respective sizes, the big ones together, and so on, then the work will proceed more quickly and satisfactorily. Unless this is done, much time would be lost in picking out the large from the small, and some of the latter might easily be mixed with the former, and when the plants reached a flowering stage spoil altogether the effect that should result were the bulbs as nearly as possible equally vigorous. Eight good bulbs will be sufficient to place in a 4½-inch pot, and ten or twelve in a pot 6 inches in diameter. First three parts fill the pots with compost, making this fairly firm, then place the bulbs upon it, pressing them in gently, and cover over to the depth of about half an inch with the same soil. Do not, however, make the soil that is above the bulbs nearly so firm as the compost beneath, otherwise the tender shoots might have some difficulty in pushing through when growth commences.



CYPRIPEDIUM GUTTATUM.

(From a drawing by H. G. Moon.)

A cold frame is the best position in which to stand the pots when the bulbs are placed in them. Give an abundance of air during the day; in fact, remove the sashes altogether, except during wet weather. It is important that shade be given, although this may seem superfluous before the bulbs begin to show signs of starting. If the pots are exposed to the sun, however, the soil in them becomes quickly dried up, and in order to keep it moist necessitates constant watering. This tends to make the soil sour and unwholesome, and the bulbs can certainly, to say the least of it, derive no benefit from being exposed to such changeable conditions, for the soil being parched up one part of the day and saturated another cannot be conducive to root action. The green blades will quickly make progress after they are an inch or so high. During the autumn keep the plants in a house where the night temperature is about 60°, and give air during the day when the thermometer registers 65°. Shade will not be necessary after the bulbs are growing freely. When the pots are well filled with roots, if liquid manure is given it will materially help to strengthen the flowers. Neat wire stakes twisted into a ring at the top are

most useful for supporting the flowers, which are upon such slender stalks as to need support of some kind. A. P. H.

KEW NOTES.

PÆONIA LUTEA.

PÆONIA LUTEA is a new species discovered in Yunnan a few years ago. It has created much excitement among lovers of this gorgeous flowered genus, for it is quite distinct from anything that has come before. Its nearest ally, as far as general appearances go, is P. Moutan, but it differs in several respects from that plant. It is of shrubby habit, but increases very slowly in height. The leaves are large, divided into a large number of segments, and glaucous. The flowers are a clear, deep yellow, 4 inches across, semi-double, and the petals of good texture. Their chief fault is that they last in good condition for a few days only. By using this plant with P. Moutan a distinct race of hybrids should arise, for as yet there is no good yellow among the many cultivated forms of the latter species. At Kew a specimen of P. lutea was lately in bloom in the Himalayan house, the plant bearing five flowers.

CLIANTHUS DAMPIERI.

Possibly more disappointment has been caused by this than any other greenhouse plant, for when well grown it is very showy, and one which everybody wants to try. From seeds sown in heat young plants quickly appear and look healthy for a few weeks; they then take on a yellow hue and gradually dwindle away. It is difficult to understand why plants should not thrive, for they have been tried in all sorts of soils and positions, but the result is usually the same. In Germany it is grown well in a few places grafted on stocks of Colutea arborescens. At Kew a young plant was grafted fifteen months ago; it has grown well and flowered for several months. After grafting it was potted into a mixture of peat, loam, leaf-mould, and sand, and grown in an intermediate temperature near the glass throughout summer.

In October it was placed in a wire basket 18 inches across and hung in a greenhouse. In March of the present year it commenced to flower and was hung up in the Himalayan house. For the last two months it has had about thirty heads of flowers open at once, many of them containing six blossoms. The bright-coloured flowers, with their scarlet, black blotched petals, contrasted with the dark foliaged plants in the house, have a very fine effect, and the plant being suspended from the roof the flowers are seen to greater advantage than when against a wall. Great care is necessary with the watering of this species, and possibly the good drainage procured by basket culture may to a great extent have produced the result seen at Kew.

GARDENIA ROTHMANNIA.

Although this plant has been in cultivation for upwards of a century it is very rare, and still it is showy, fragrant, and moderately free flowering. It is quite distinct in every respect from the common Gardenia florida so well known, and comes from quite a different part of the world. The species under notice is a native of South Africa, and makes a tall growing bush, with evergreen, ovate,

leathery leaves, and produces large sweetly scented blossoms throughout summer. When fully expanded the flowers are 4 inches or more across. In colour they are cream or pale yellow, with a large number of purple blotches on the inner side of the tube. They do not last long in good condition, about three days being the average time each flower lasts. A compost of two parts fibrous loam, two parts peat, and one of coarse sand is suitable, and if it can be planted in a border in an intermediate house so much the better. At the present time a plant 6 feet high is flowering well. W. DALLIMORE.

FLORAL GARGOYLES.

I HAVE read with interest the note of my friend Canon Ellacombe upon floral gargoyles. There cannot be two opinions about their extreme vulgarity and want of suitability from every point of view, but it is not such an easy thing to get rid of them as he esteems it to be. There is no doubt that a clergyman would be acting within his legal rights who sweeps them

the faintest recognition of the fact that these floral gargoyles are unsuitable to the last degree, and they do not understand what you say when you take exception to them. Here is the real crux of the whole affair, and this is a sort of case about which it is very difficult for one class of persons to enter into the ideas of another class of persons and to do justice to them.

I have taken the greatest possible interest in the formation and well-being of a churchyard for the parish of St. John's. What has been done here was considered a success alike by the Bishop and the parishioners who were interested in it; but there has always been one difficulty which it has been found quite impossible to remove. If these gargoyles remain as they are there is a blot on the whole thing; and if they were to be taken away by force there would be much more of irritation and resentment than the whole thing is worth. I am no longer in office here and so my hands are quite free of the affair, but speaking

They will be used till something better is found, but the appeal of simple and natural flowers to the heart is one against which nothing can stand if it only be made, and in this manner what is so offensive and vulgar may be superseded by that from which some comfort may very properly be obtained.

I was quite shocked the other day when I had occasion to visit a large horticultural depôt in London to see evidences of the enormous trade which is now carried on by these miserable constructions alongside of—and in the name of flowers!

HENRY EWBANK.

[We scarcely think that any wise clergyman would be likely to adopt harsh or high-handed methods in dealing with a subject that might nearly affect the sensibilities of his parishioners. Rectors and vicars of parishes are conveying their desires and intimating their intentions on this subject in such ways that no one need be hurt or aggrieved. For instance, if the churchyard has been allowed to be disfigured

or debased by the laxity of a former incumbent, his successor may, after gaining the goodwill and confidence of the parish, request the removal of the objects. Should any remain after this he may give a kindly worded notice that their presence will not be permitted after a certain date, but he will do nothing unkindly or abruptly or in a hurry. He will make it clear that the placing of objects of this character does no honour to the dead, but is only a cheap way of gratifying the feelings of individuals at the expense of those of the better-minded of the community. It is only because these vulgar things are cheap and easy to obtain that they have come into use. It is just a little more trouble to get a pretty Rose bush or some bulbs to plant on the grave, and therefore the glass-covered object is chosen. The exercise of his right would be the rector's last resource, and one that he would use with the utmost reluctance.—Eds.]



WHITE BROOM AND CHOISYA TERNATA AT EAST BURNHAM PARK.

all away, but there is another point to be considered before such drastic treatment can be at all wisely enforced, and that question is this, What would be the effect on the minds of the parishioners—I mean, of course, those of the uneducated sort—if such a strong step were to be taken? I have just now been talking to a man who is well acquainted with the ways and manners of the Isle of Wight, and his notion is this, and so it is mine, that any high handed proceeding about this matter would give place to such widespread soreness and resentment all over the place that the floral gargoyles would soon be welcomed back again so as to restore peace.

There would be very genuine grief on the part of many poor persons, who would look on it as a desecration of the resting places of their dead, and all of us would respect that feeling, though we should not be able to enter into its cause; and there might be interested opposition in some places on behalf of those who flourish by the trade, which, however, would not matter at all. But with numbers of poor and uneducated persons there is not, I am sure,

generally of this and all other churchyards I have long since come to the conclusion that the best and in fact the only method of making war upon these detestable floral gargoyles is to point out a more excellent way.

I know it is a matter of great difficulty, and it certainly cannot be effected all at once; but if poor and illiterate people could only be brought to see in the words of the leading article in THE GARDEN that "a wreath or crop of natural flowers made with loving care and placed on a dear grave on some anniversary or festival of the Church" is much better than any stiff or ugly remembrancers can ever be, I think they would adopt them in time, and I venture to add that if only it could be understood how well some common and easily grown flowers can be kept in blossom nearly all the year round upon a grave they would take the place of anything else, and Primroses and Violets and Fritillaries and Scillas and Roses and other things would be used in the service of decoration all over the land, and God's acre would put on an appearance which as yet it has never had, and which no "gargoyles" can give it.

Your notes on "Floral Gargoyles" in THE GARDEN of June 1 interested me greatly, but it is the buyers rather than the florists who should be struck by the renaissance in art. Some of the most beautiful and artistic floral arrangements I have seen have been the work of Chicago florists. On the other hand, the man of flowers must often consent to the grotesque realism demanded by his customer or lose a sale, which perhaps he cannot afford to do.

I heard of a case where a departed butcher was honoured with a chopping-block of white Carnations, having a cleaver of Immortelles resting upon it. Another appropriate design, sent to the funeral of a carpet layer, consisted of three steps covered with gorgeous stair-carpet, with a tack-hammer lying on the lowest step. I have seen floral railway and trolley cars, firemen's helmets, policemen's badges, and even a telephone box, with the inscription, "His last call." But I have never known a florist of recognised taste to recommend such horrors; they are the mainstay of the class known in professional slang here as "crape chasers." It is quite possible that the formal bedding in some of the Chicago parks has fostered the taste for these hideous designs. William Robinson referred to this planting a few years ago as an Italian pastry-cook's idea of the beautiful. Rolls of carpet and log cabins are among the mildest offences in this bedding, but they can hardly be called representative of American taste, as a study of private gardens will



THE SUNDIAL WALK.

show. Why they are permitted to exist has long been a mystery to me.

Maywood, N.J.

EMILY TAPLIN ROYLE.

BRITISH HOMES AND GARDENS.

EAST BURNHAM PARK

BUCKS is a delightful county, and Burnham one of the most delightful and interesting districts contained in it. It will be quite sufficient corroboration of this statement to mention that in the near neighbourhood are Windsor Castle, Eton, Burnham Beeches, and Stoke Poges, a few of many places equally as full of interest either historical or topical. Even in the midst of such unique surroundings one's interest, great as it may have been in the beauties of natural country life, is enhanced when one visits East Burnham Park, the residence of Harry James Veitch, Esq., and the reason is not far to seek. The natural charms of the grounds have not been destroyed, and where planting has been done it has been done with care and wise foresight. The wild garden and woodland dell are pictures of successful gardening. What a few years ago was but brushwood and brambles is now intersected by winding walks, bordered by masses of wild Roses, Japanese Honeysuckles, Clematises, &c., and the rough underwood has been replaced by choice flowering and foliage shrubs. In early summer Laburnums and *Prunus Pissardi*, Golden Elders and Berberis, white and yellow Brooms provide beautiful contrasts of colour above a sea of nodding pink and blue Bluebells. Beneath the shade of tall Elm trees are masses of Rhododendrons in flower, included being some of the best hybrids, as well as the old ponticum.

To reach this charming woodland scene one needs must pass through the wild garden, around which are grouped beds filled with

flowering and foliage plants that will always provide something of interest until winter comes. A few weeks ago the Globe flowers and the double Gorse on the bank-side were brilliant, and the stately Foxgloves, Wood Anemones, Berberises, and Brooms added variety of colour, while giant Rheums, Spiraeas, Tritomas, Gynieriums, &c., gave promise of good things to come, as Peaches, Almonds, Cherries, &c., testified to the beauty of the spring just passed. Nearer to the house the grounds have a somewhat newer appearance, although their pleasing design and the vigorous growth made by the various trees and shrubs have done much to dispel this, and so effectually that soon all trace of newness will have imperceptibly disappeared. Around the lake are tastefully grouped such things as Yuccas, Brooms, *Choisya ternata* (that does remarkably well here), *Arundo*, *Gynierium*, *Eulalia*, &c., while the grounds are rich in fine examples of good flowering shrubs. *Hydrangea paniculata grandiflora*, Azaleas (most brilliant of all), Lilacs, Magnolias, Sumachs, and Viburnums are but a few of those to which larger beds are devoted.

There is such a variety of hardy shrubs planted that almost all the year round one would find something of interest in flower or leaf. Gardening in the grass is one of the prettiest features in the grounds of East Burnham Park. After the Crocuses and Daffodils are over, gorgeous Parrot Tulips, together with their more subdued brethren, make the semi-wild portions of the garden, by the margins of walks and shrubberies or beneath the shade of trees, for instance, a patchwork of bright and changing colours. Such are a few of the characteristic features of the gardens around the country home of Mr. Harry James Veitch, gardens which possess the attribute of being so planted that during almost every week of the year there is something to interest and attract, an attribute that is, unfortunately, wanting in many gardens.

FOREIGN NOTES.

NOTES FROM BELGIUM.

EXTENSIVE glass houses in the Parc Leopold, Brussels, of the Société Horticole Coloniale, of which M. Lucien Linden is the able director, are especially interesting at the present moment during the exhibition of Orchids in flower, which are just now at their best. The delightfully cool temperature of the shaded houses makes it possible to enjoy at leisure the wonderful loveliness both of the individual sprays of flowers and the grouping of the plants, which in every part of the establishment is exceptionally tasteful and good. It needs, doubtless, the eye of a connoisseur in Orchid points thoroughly to appreciate the exceeding richness of the collection, a cult to which the present writer does not pretend; but the perfect cultivation and sturdy health shown in every department is beyond all praise. Many of the varieties pointed out as unique or remarkable in form and colouring originated in Belgian nurseries, and will therefore repay an inspection by the English expert. The interest, however, of the exhibition is much enhanced by a number of new plants of great promise lately introduced from the Congo by the collectors sent out by the society. Amongst these three new species of *Hæmanthus* stand out pre-eminently. It is a genus which runs through many modifications, from the quaint white brushes of *H. albiflos*, which may be grown in a window, to the splendid scarlet globes of *H. Katherine superbis*. The new species bid fair to surpass all their congeners. All of them belong to the section which develop flowers and leaves together, and are of simplest culture in a warm house. *Hæmanthus fascinator*, *H. diadema*, and *H. mirabilis*, of varied shades of salmon and scarlet, form a brilliant trio, sure to become favourites with those who can give them a suitable home.

Besides these, a goodly number of fine leaved plants have been recently introduced from the same regions, and will soon find their way to England. Two grand new species of *Ficus*—*F. eetveldiana* and *F. Luciani*—will prove acceptable where massive leafage is desirable. A new *Asparagus* (*A. Duchesni*) may be compared with *A. Sprengeri*, but is of taller and more graceful growth, while it is quite distinct in the darker green shape of its leaflets and in the greater length of its drooping sprays.

Several new *Marantas* are conspicuous, especially one, *M. imperialis*, whose long oval leaves of metallic bronze, striped with deep red and white lines, command attention. Another handsome



THE HOUSE AND LAWN AT EAST BURNHAM PARK.



CERASTIUM BIBERSTEINII.

plant, of which the affinity has scarcely yet been determined, has been given the provisional name of *Bamburanta arnoldiana*. The habit of growth of the channelled stems recalls the Bamboo, while the leaves are those of a *Maranta*. A charming little *Begonia* from Ceylon is quite appropriately called *B. deliciosa*, being very attractive with its palmate leaves of bronzy green, daintily veined and splashed with silver-grey. More novelties could be added to the list, but these are amongst the most notable, and it is rare to have the privilege of seeing at one time so many new and valuable importations.

Any one interested in tropical plants who may be passing through Brussels should make a point of visiting the greenhouses in the Parc Leopold. To-day it happens to be an exhibition of Orchids, but the scene is constantly shifting. Something of interest is sure to be found in the large winter garden or in the galleries, and from the courtesy shown to a stranger without introduction of any kind it is safe to conclude that we cannot please our Belgian neighbours better than by taking advantage of such opportunities as are so generously and freely offered to the public by the administration of the Société Horticole Coloniale. K. L. D.

PARIS FLOWER SHOW.

THE great annual flower show held by the National Horticultural Society of France was opened in the Jardin des Tuileries in Paris on the 29th ult., and was favoured by splendid weather. The display was a grand sight, every plant exhibited being grown to perfection. The arrangements could not have been better, and the attendance was large and select. The ceremony of opening was performed by M. Loubet, President of the French Republic, accompanied by the Ministers. In the afternoon a sudden and severe storm of rain of two hours' duration unfortunately checked the enjoyment of the *fête* for the first day. The next morning, however, all the damage was repaired, and the show was continued until the 4th of June in days of tropical heat.

Novelties were numerous, though none were of extraordinary merit. Amongst them was a *Musa* with red foliage, seedlings of *Crotons*, two hybrid *Cattleyas*, *Anthuriums*, and *Phyllocactus*. *Ficus panduriformis* from the Ivory Coast was much admired, also *Schizanthus wisetonensis* exhibited by Messrs. Hugh Low, and a splendid purple bedding *Calceolaria*, the whole stock of which is in the hands of Messrs. Sutton and Sons, of Reading. I regret I did not notice any other British exhibits.

Orchids were plentiful, and had never been shown in such fine condition, but it is strange that there should have been no other hot-house plants. Tuberous *Begonias*, single and double, and *Gloxinias* were truly marvellous. *Caladium tuberosum*, large-flowered *Cannas*, *Pelargonium*,

zonal *Pelargoniums*, *Calceolaria* (herbaceous), and tree and herbaceous *Pæonies* were a grand display, and grown to perfection.

Annuals (autumn sown) were one of the grandest displays on account of the diversity and brilliancy of colours. I regret to observe that this way of culture is so little practised in England.

Bulbous plants were poor, the season being too far advanced. Tulip *La Merveille*, a novelty of 1900, was, however, very striking on account of its bright coral-red flowers and its late flowering, all other species and varieties being out of bloom.

Huge specimens of *Rhododendrons* and *Azaleas pontica* and *mollis* covered with myriads of flowers were, as usual, a great attraction.

Roses were in great variety, represented, as usual, by thousands of poor small examples, each bearing four to six flowers. I wished a few of the splendid specimens shown yearly at the Temple show could have been there; they would have had a great success.

Collections of vegetables could not be better, and the plants were grown to perfection, including Peas, Beans, Lettuces, Endives, Cucumbers, Potatoes, Radishes, Cauliflowers, Turnips, &c., with fine Melons and beds of French Mushrooms.

Perennials were not numerous, but what there were were very well grown. I failed to see the greater number of our old favourites, growers devoting all their attention to the new forms or varieties of recent plants, which are of comparatively doubtful merit. Alpines were very poorly represented.

Large-flowered Pansies were very poor owing to the late season, but there were some magnificent Carnations.

Forced fruits were a great attraction. Peaches, Apricots, Figs, Grapes, Cherries, Almonds, and Plums were shown in perfection on their own roots, showing the expansion and progress realised by French growers.

Asparagus were largely represented in all their phases, from the small green forced to the average purple top size. Among the enormous bundles of gigantic heads one of forty-four Asparagus attained the respectable weight of 26½ lb.

For the first time a colonial exhibition was held, comprising the useful, economical, industrial, and commercial plants found in, or desirable for introduction into, tropical colonies. This was a real success.

An exhibition of horticultural paintings was largely represented, some pictures being of real value, though in most cases artists were inclined to make pictures rather than to represent the plants as in Nature.

Fruit trees pruned in all small and large forms were perfect, showing again the supremacy of French arboriculture in this interesting branch.

Greenhouses, boilers, frames, mowing machines, pumps, watering apparatus, rustic houses, and all sorts of horticultural implements and sundries were largely represented.

GUICHENEUF.

THE CERASTIUMS.

ALTHOUGH the Mouse-ear Chickweed family is a numerous one, comprising over 100 species, distributed over the temperate parts of the world, the number of pretty or useful members is very limited, as the majority are of very weedy habit with insignificant flowers. They

are decumbent or trailing in habit, quite hardy, and consist of both annuals and perennials, though only one of the former, *C. perfoliatum*, is worth a place in the garden. The rest of those mentioned below are all perennial. Perhaps the two most generally cultivated are *C. Biebersteinii* and *C. tomentosum*, both (on account of the silvery character of their foliage rather than for their flowers) as edgings for beds or for the front row in the border. Of easy culture, most of them will grow in nearly any soil, some of the higher alpine species only requiring a stony compost and sunny position. Easily increased by cuttings or division.

C. alpinum.—An interesting and pretty species found growing freely on the Scotch mountains, and less frequently on those of the English and Welsh ones. It is a very dwarf plant, 2 inches to 4 inches high, with small ovate leaves, clothed with a silky down, imparting to it a singularly shaggy appearance. From the prostrate stems arise ascending branches, bearing branching cymes of large white flowers in early summer. Apart from its flowers, this species is always a pleasing and distinct object, and worth its place in the choicest part of the rock garden. *C. a. var. lanatum* has more woolly foliage. *C. arvense* is also a native affecting dry banks in many parts of the country. Although pretty, it is, however, too much of a wanderer, except where it can be given unlimited space. *C. a. var. suffruticosum* is a more compact growing form, with narrow green leaves and a profusion of white flowers.

C. Biebersteinii (the Taurian Mouse-ear Chickweed) is closely allied to *C. tomentosum*, but differs in its broader leaves and larger flowers. The lower part of the stem is very slender and creeping, and gives rise to the ascending branches, which, as well as the leaves, are covered with a soft dense white tomentum, giving the plant a silvery appearance. It is an evergreen, and of compact habit, its native habitat being in dry, stony places on the higher Taurian alps.

C. Boissieri is a beautiful free flowering plant, nearly a foot high, with narrow sessile silvery leaves and large white flowers. It makes a handsome object as a pot plant or hanging over a ledge in the rockery. Native of Spain.

C. grandiflorum.—Of more robust and spreading habit, this makes a handsome plant for the margin of a mixed border or for the rougher parts of the rock garden. It takes up too much room in any place which might with advantage be devoted to more deserving plants. The large white flowers are produced in great abundance in the early summer, quite obscuring the narrow silvery foliage on the stems below. This is a deciduous species, and a native of the dry hills of Hungary.

C. latifolium.—A dwarf alpine plant 2 inches to 4 inches high, with comparatively broad pale green or glaucous leaves and solitary large white flowers. *C. l. var. glaciale* is a high mountain form with smaller, more woolly leaves and flowers. From the granitic alps.

C. ovatum.—Similar to the above, with more ovate leaves, and dichotomous cymes of white flowers, from stony places in the higher European Alps.

C. tomentosum (Snow in Summer) is one of the best known species, being used in almost every garden on account of its compact silvery appearance for forming edges for flower beds and borders. It is also useful for the rock garden, where it soon forms handsome masses. It is a native of southern and eastern Europe, where it is found growing in open places and on walls.

C. perfoliatum is an annual, about 1 foot high, with broad, glaucous, perfoliate leaves, and branching cymes of large white flowers. A pretty plant, it seeds rather freely, and is apt to become a weed.
W. IRVING.

A WELL-DONE POND MARGIN.

WHERE a garden is so happily placed that a pretty pond occurs or can be made within its boundaries, there is every prospect, if it be in good hands, of making delightful combinations of land and water gardening. Such is the case in that of the illustration, where a long-shaped pond draining hill on one side and meadow on the other feeds the moat of an ancient manor house, whose fabric has been wisely and reverently restored, and whose precincts, formerly a waste of weedy neglect, have been made into one of the most beautiful of English gardens.

An easy unbordered path passes near the bank, so that the aquatic plants can be conveniently seen on the one side and the garden flowers in bold informal groups on the other. At the end of the pond on the further side is a wide planting of the Irises that love water, *I. sibirica*, *I. orientalis*, and *I. Kämpferi*, while in the same pond out of the present picture and behind the spectator's right shoulder a wide spread clump of Arum (*Calla aethiopica*) rises from the water.

CORRESPONDENCE.

(The Editors are not responsible for the opinions expressed by their correspondents.)

STUNTED PRODUCTS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It is very unfortunate for the Japanese that the incontrovertible judgment of "A. D." has gone forth against their dwarfed trees. It is also humiliating to some of us who until now have humbly reckoned ourselves as "true gardeners and admirers of that which is true and beautiful in nature," and yet ventured to regard with some interest and admiration those same little trees at the Temple show. It is probably more presumptuous to apologise for Oriental taste than to abolish it in a paragraph, the fashion of "A. D." But it may be permitted to point out why everyone is not of his opinion. To begin with, it is undeniable that the Japanese equal or excel us in the appreciation of noble and beautiful natural forms—witness the facile, unerring, and exquisite lines of a good Japanese drawing of a reed, an Iris, a Crane, &c. The word which "A. D." employs of their dwarfed trees—"puny"—betrays his entire lack of perception of their character. Take, for instance, a fine example of a dwarfed Cedar. It is a standing proof that the succession of artists who produced it through a couple of centuries appreciated and enjoyed to the last hair's-breadth every line, angle, and contour of the full-grown forest tree. The massive gnarled

trunk, the curves of root and branch, the solid, flat layers of foliage, all are reproduced in the miniature tree with mathematical and marvellous fidelity to Nature. The artist knew his Cedar as few Englishmen know anything. He knew it, and entered into its very spirit and ideal, and almost worshipped it for its ancient strength of beauty, and therefore it pleased him to have this tiny and perfect (not "puny") living representation of it within his house to constantly delight his eye and imagination. It is true that he sometimes, in his childish moods, twisted a tree into the form of a bird or a junk, but the Japanese are all children on one side of their character, and happy for them that they are so, until the superior Englishman shall have educated them out of it. Thank heaven, all the nations of the earth need not, everywhere and at all times, be hide-bound in stiff artistic law.

As for the "topiary art," perhaps there might be found something to say even for that, but this brief note is not the place for it. The suggestion may, however, be offered that our Tudor and Jacobean ancestors in horticulture were not all fools, but had in several respects a juster and finer artistic sense than our own, and that possibly the criticism which fails to appreciate it, vagaries and all, may itself be a "stunted product."

GEORGE ENGLEHEART

CHILDREN AND WILD FLOWERS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have the liveliest sympathy with your suggestion that in rural parishes Sunday (or other



THE FLOWER-MARGINED LAKE AT GREAT TANGLEY MANOR.

day) classes for boys (and girls also) should be promoted by some leisured persons who themselves have knowledge of botany, even if elementary, and would thus instruct the young both in knowledge of and promote a love for our flora. How often in addressing flower show gatherings in Surrey have I urged that this be done. Still further, that the somewhat stupid practice of offering prizes for collections of wild flowers and grasses, gathered and bundled together without any discrimination, be abolished, and in place thereof classes be established for collections of wildflowers and grasses, shown in very small bunches, and to be as far as possible correctly named, botanically and otherwise. That such classes would be exceedingly educational there can be no doubt, and not least of the benefits arising from them would be the new and profound interest in our native flora that would be aroused in the minds of myriads who now regard the wealth of beauty by which they are surrounded in wood, field, and hedgerow with comparative indifference. Our rural population generally, rich and poor, because they have little or no botanical knowledge, are so many Peter Bells, and a lovely Primrose, a charming Daisy, or a beautiful Dog Rose are to them just mere wild flowers and no more. I cannot conceive any greater charm or of interest attaching to rural life than is found in a wide knowledge of Nature's vegetation, and especially of flowers. How delightful is it to range over some extensive common or through woods, or beside hedgerows or streams, and there note the marvellous abundance of beautiful though simple flowers to be found. But the interest is for the lover of Nature a little, and far more so for those who have knowledge. It seems to be so humiliating to have to admit ignorance. It is so delightful to be able to answer the myriads of questions which children will ask. How wise relatively is he or she who knows the names of the wild plants, and something about their ways of growth. If to my rural show adjurations there has been so little response, so far as I know, is it not due rather to idleness, the natural habit on the part of even the educated to refrain from taking pains or trouble rather than from absolute indifference? Yet does it seem as if in our rural districts there must be many men and women who have both time and knowledge, and could do so much, as is suggested, and even more. How delightful to take a summer evening ramble, to collect, always with discretion, samples, to correctly name them, and with that give notes of growth, to have these examples pressed and dried, then to use them in the winter for purely botanical lessons or objects, when Nature has shrouded plants and grasses in a blanket of snow. I have often been pained at rural shows to see the evidences of wasted or misdirected energy seen in collecting wild flowers and putting them up in huge ungainly masses, in the composition of which not one sparkle of intelligence has entered. In the dressing of small baskets or constructing pretty hand bouquets of wild flowers some artistic effort is called forth, but in collecting these huge masses of wild flowers only the faculty of wanton destruction seems to be exercised. A. D.

NARCISSUS TRIANDRUS PULCHELLUS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The pleasant articles on "The Lesser Narcissi," which have appeared in THE GARDEN from the pen of the Rev. George Engleheart induce me to draw the attention of readers to the pretty *N. triandrus pulchellus* as being one of the most valuable of these smaller Narcissi for gardens where the exquisite *N. triandrus albus* cannot be induced to make itself at home. Although it is taller and less refined in its colouring, perhaps, it is so much more adaptable to ordinary conditions of cultivation that it might well be more largely grown. I presume that it is either less plentiful as a wild plant than *N. triandrus albus*, or that it is less accessible to collectors, as the difference in price between the two is difficult to account for. I see in one of last autumn catalogues that *triandrus*

albus is priced at 1s. 3d. and 1s. 6d. per dozen, while *triandrus pulchellus* costs 5s. 6d. per single bulb. The latter is much more easily grown. I know a Scottish garden in which I recently saw a short row of it, and each of the older plants had about it quite a colony of young ones. My few bulbs were kindly sent me by the owner of that garden a year or two ago, and already they are showing quite a satisfactory increase at the roots. With its prim perianth and white cup, it quite deserves its specific name of *pulchellus*. My friend grows it in the ordinary border in good but rather dry loam, while I grow it in sandy peat in a low place at the base of a rockery fronting the south-west. S. ARNOTT.

Carsehorn, by Dumfries, N.B.

THE CAPE MISTLETOE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—In fulfilment of a promise made you twelve months ago, when I sent you some of the pretty coral berries, I now forward you some specimens of what is popularly known here as the Cape Mistletoe. There are some full-size branches, and you will find a small but complete specimen of this species, with a piece of the bark of the tree to which it was attached. You will now be able to determine whether it is a *Loranthus*, as you supposed, or a *Viscum*. Miss North, whose gallery at Kew attracts so many visitors from the colonies, mentioned, in her widely read "Recollections of a Happy Life," that a Mistletoe with red berries was abundant in Spain. It would be interesting, therefore, to find out whether these two parasites, met with in localities at a considerable distance from each other, belong to the same species. It is fairly abundant in the suburbs of this town, but I am only acquainted with one spot where the minute Mistletoe is found—of which I forward several specimens—growing on the *Euphorbia* common on the rocky, stony ground in this neighbourhood. Your friends will no doubt agree in the opinion that it is rightly named *minimum*.

I am also sending you some seed of *Protea uricifolia*, one of the finest of the species. It is abundant in sandy ground in this part of the colony. It may interest you to see a specimen of the wild *Dianthus* common on our hills, and to compare it with its proud relatives of the floral aristocracy on your side of the water.

Port Elizabeth.

W. HEMSLEY.

[A most interesting collection, but much damaged on their long journey. *Viscum minimum* usually grows upon *Euphorbia*, and *V. rotundifolium* on *Euclea*.—Eds.]

WHITE CABBAGE BUTTERFLIES.

THE caterpillars of these too common butterflies, besides attacking Cabbages of various kinds, Cauliflowers, Turnips, &c., are very destructive to the leaves of Mignonette, Tropaeolums of various kinds, and Horseradish. When plants are infested, pick the caterpillars off by hand, unless the pests are very abundant, when the plant might be sprayed with paraffin emulsion or salt and water, or pyrethrum powder might be sprinkled on the heads of the Cabbages. The butterflies may be caught in nets. The chrysalides may often be found on posts or palings and under the eaves of outhouses, and should always be destroyed. These butterflies are too well known to need description, and the two species may be easily distinguished from one another by their unequal size. The Cabbage butterfly is considerably larger than the other, measuring about 3 inches across the wings when fully expanded, while the Turnip butterfly is not more than 2 inches. The caterpillars of the former species when full grown are $1\frac{1}{2}$ inches in length, of a pale blue or green colour above and yellow on the underside, there being down the middle of the back a

yellow stripe. There are various black spots, dots, and hairs scattered over the body. The caterpillar of the Turnip butterfly is about 1 inch long, of a dull green colour, with a yellow stripe down the back, and one on either side; it is so covered with short hairs as to be quite velvety.

EDITORS' TABLE.

SEEDLING IRISES FROM GUERNSEY.

We have received from Mr. W. J. Caparne, Rohais, a boxful of flowers of seedling German Irises, with standard varieties for comparison, and we think Mr. Caparne is accomplishing good work in increasing the variety of colours among these beautiful garden plants. Many of the seedlings are very pure and good in colour. Our correspondent in his note suggests a pretty use for the flowers of the German Iris: "I suggest that a few blooms be picked off and used as table decoration, this being I think a specially useful flower for the purpose. They require no water, and keep good for one or more days on the cloth."

CARNATION THE COMET.

Mr. Weguelin, Dawlish, Devon, sends flowers of his beautiful new Carnation The Comet. The flower is very full, the calyx betrays not the slightest indication of splitting, and the colouring is pure and pretty, a clear yellow ground, cut into with stripes of rose, while it is sweetly scented. It is quite a good addition to its class.

ROSA LUTEA.

We have received from Mr. Clements, Thomastown, Birr, King's County, Ireland, flowers of the interesting *Rosa lutea*, or Austrian Brier. This is a very old Rose in gardens, but one rarely seen in good condition, and so *Rosa Harrisoni* is generally grown instead, although its flowers are neither so pure in form nor so deep in colour. Those of *R. lutea* are very full, of a pure butter yellow, which deepens in the centre of the bloom.

RHODODENDRON ALBUM MULTUM.

Mr. J. Mayne, The Gardens, Bicton, Budleigh Salterton, writes: "I think you will agree with me in saying that this is a very pretty variety and not often met with. It is also valuable for its late flowering."

[The flowers were of very pretty colouring, white, with the lower centre petal spotted with red, a clear and good shade. The truss is a full one, and the variety effective in all ways.—Eds.]

LUZULA NIVEA.

"I send a bunch of *Luzula nivea*. I brought the original plants from Monte Generoso (Italian



WHITE CABBAGE BUTTERFLY.

1. The Butterfly. 2. Eggs. 3. Caterpillar. 4. Chrysalis.

Lakes), and they are now big clumps. I regret that I did not send it a little earlier when the flower was much whiter. It lasts long in water, and is invaluable with other cut flowers."—CHARLES PRENTIS.

[This pretty grass-like plant of the Rush tribe, with its tufted heads of white bloom, is worthy of a place in any garden; it is especially pretty among Ferns at the edge of Woodland.—Eds.]

Messrs. Wallace, of Colchester, send a very fine deep-coloured flower of

BRODIAEA LAXA (PURPLE KING).

The flowers are large, of a deep violet-purple outside, and inside of a purple shade redder, on which the pale blue anthers show very distinctly.

CARNATION DUCHESS OF ROXBURGHE.

We have received from Messrs. Laing and Mather, of Kelso-on-Tweed, flowers of their beautiful new Carnation Duchess of Roxburghe. The flowers are exceptionally large, without coarseness, and full; the petals held well within the calyx, which shows not the least inclination to split; the colour is clear yellow, cut into with lilac and red; a very pretty flower, and sweetly scented. It is a Carnation of strong growth and is in every way a good addition to the charming yellow-ground class.

CANNAS AT SWANLEY.

MESSRS. HENRY CANNELL have done much to improve several of our popular greenhouse flowers, and among them the Canna. Those who were fortunate enough to see the plants exhibited by this firm before the Royal Horticultural Society on June 4, at the Drill Hall, Westminster, will admit what great improvements have been made in both size and colour of blooms, and particularly also in the habit of flowering. We know that one drawback to the popularity and usefulness of the Canna has always been apparent in the fact that by the time the middle and upper flowers are open or opening, those lower down the flowering stem would be quite over, with the result that the general effect is not nearly so good as it otherwise would be.

The plants in flower recently shown by Messrs. Cannell were, however, free from this defect, and if it has been finally overcome it speaks well for the skill and patience of the hybridiser, and will have the effect of still further popularising these valuable half-hardy plants, that now produce such brilliantly coloured flowers. A few of the best varieties in Messrs. Cannell's collection are Jean Tissot, a fine rich crimson, shaded scarlet; Elizabeth Hess, golden yellow with intense scarlet spots; Oscar Danecker, gold and chrome; Florence Vaughan, Mme. Picher, Mrs. Druer, and Duke of Marlborough.

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

FLOWERING SHRUBS.

MANY of our early flowering shrubs object to hard pruning in winter or spring, but are benefited by being cut over, to the extent of shortening back gross shoots and branches directly after they have flowered, this giving them time to break again and ripen up growths of a more serviceable type during the later summer months. By attention to this now, using the knife judiciously but not excessively, a good balance of growth is maintained, without having to offend the critical eye by the ugly bristling appearance of shrubs which have been cut into shape when dormant, and floriferousness is gained by this summer pruning treatment. Of



A CANNA HOUSE IN MESSRS. H. CANNELL AND SONS' NURSERY AT SWANLEY.

course the habit as regards flowering has to be understood by the operator if good all round results are to be expected.

BEDDING PLANTS.

These have had a very trying time with the excessive drought, the high winds, and the cold nights that have been our experience here for many weeks past. If the beds are not wanted in flower yet, all such things as Pelargoniums, Violas, and indeed almost all plants, will be the better later on for being divested of their flowers as fast as they form. Carpet bedding is fortunately not so much in evidence now as it was some years ago, but where designs of this nature are still carried out every effort should be made by pinching and trimming the plants used to keep the design well defined. Vases and ornamental baskets in the flower garden are generally well crammed with large plants, so that they may give an immediate effect. This cramming entails much watering and some feeding with liquid manure. The latter must not be over strong, but its use should be commenced directly the vases appear to be full of roots. Manure water from stock-yard manure is the best that can be applied singly, but it may be varied with advantage by using, say, once a week, some weak guano water.

HERBACEOUS BORDERS.

A tidy appearance should be maintained here by cutting away all flowers as they fade, a second reason for this being that seed pods, if allowed to form, greatly weaken the crowns now being produced for next year's growth. Most plants object to being denuded of their foliage, but in the case of such things as Delphiniums, that, like the Pyrethrums noted last week, will give a second display of flowers in the autumn, it is best to cut them down to the ground at once. Another favourite border plant that should be cut back hard after flowering is the double white Rocket, which is induced by so doing to make strong basal growths, which give good divisions in autumn or spring, and, as this plant can only be kept in proper condition by frequent division and transplanting, strong growths made early are a great feature in its culture. The

HELLEBORES

or Christmas Roses may now be lifted, divided, and replanted, if increase of stock or change of site is thought desirable. These plants are impatient of removal and take a year to recover themselves, consequently no good flowers need be

expected during the next flowering season, but the ultimate results will be to improve the size and quality of the flowers. They delight in a soil rich in humus and a semi-shaded position. The soil should be broken up deeply.

J. C. TALLACK.

Shipley Hall Gardens, Derby.

KITCHEN GARDEN.

THIS prolonged spell of dry weather has considerably delayed the planting of all winter crops, but the young plants, having grown in their seed-beds to an advanced state, must soon be taken in hand, and the planting and watering in of such crops as Broccoli, Savoys, and Brussels Sprouts must be proceeded with at an early date. The drills, having been drawn, should be well saturated with clear water in the evening previous to planting, and again after the plants have been put cut. The trouble and cost of such watering will be small when compared with the benefit derived from it. The evening should be chosen as far as possible for the application of water, as there is then less tendency to evaporation than at any other time of the day, and watering will therefore have a more lasting effect on the soil.

CAULIFLOWER

plants put out now should never be allowed to become dry at the root or they will button and cause disappointment. Where mulching with manure can be carried out amongst such crops great advantage will be derived from it. Short grass from the lawn may also be used with advantage, or any grass that is cut before the seeds are ripe will form a good protection to the roots of all succulent plants during hot, dry weather.

CELERY.

Although the season for this much-prized vegetable has not advanced far, the earthing up of the early batch will soon require attention. These plants should never be allowed to become dry at the root, and previous to earthing up the beds should receive a liberal watering, and no more be given until they really require it. The first application of soil need not be a large one, the plants should previously be cleared of all side shoots and small leaves, after which they may be drawn close together with the hand, and tied with a piece of ordinary matting. The fine soil should then be placed round each plant with the hand, and care taken not to raise it higher than the centre of the plant, and this should never be done while the

plants are damp. The chief thing necessary for the cultivation of Celery is a liberal supply of good farmyard manure. This should be frequently turned, and allowed to become thoroughly decomposed before being dug into the trenches, and it is of great importance that the plants should be put out before they become drawn. Keep a watchful eye on the celery fly, which is the most destructive pest we have to contend with. The most effectual way of dealing with it is to carefully pick off all the affected leaves; afterwards frequent dustings of soot and lime should be given to keep the fly down as far as possible. Slugs are also a troublesome pest, and should be dealt with by applications of soot and salt mixed together with the soil for earthing up.

LETTUCE

seed should be sown thinly on a north border, and thinned out to the proper distance apart as soon as they are large enough. Frequent small sowings will be necessary in order to keep up a constant supply. We are cutting some splendid Cabbage Lettuce now from seed sown on September 12 in the open garden, away from any protection whatever. Some plants taken from this bed and transplanted on a south border were over some time ago, which shows the effect the different situations have on these plants. The variety is Sutton's Marvel or red-edged Cabbage Lettuce, which I find most valuable in hot, dry seasons. Mustard and Cress must be sown frequently behind a north wall, and protected from drying winds and strong sun by mats or any other covering. JOHN DUNN.

Royal Kitchen Gardens, Windsor.

THE INDOOR GARDEN.

COOL FERN HOUSE.

Now we are fairly into summer abundant shade must be provided here, and the material used should be sufficiently thick to maintain the moisture which is introduced into the structure. The shadiest position in the house should be given over to Todeas, Trichomanes, &c., subjects which not only revel in shade and moisture, but to whom they are absolutely essential. The interior will require a general overhaul and clean up, as the perpetual moisture characteristic of such houses renders this work more often necessary than in any other of the glass erections, so that while dealing with the arrangement generally the pots should be well washed and dead fronds removed, though these, presuming the plants are free from vermin, will be less frequently met with than at a later date, when growth is on the wane. In most cases the pots will be fairly well charged with roots, and a little feeding will be of advantage, farmyard liquid preferably, and that from cow sheds only. It should, however, be given in a very weak state at first, and at no time should it be given as strong as we recommend its use to many subjects. Under good cultivation little trouble will arise from the presence of aphids, but should this be so, then I advise Richards' XL All Vaporiser to be used, and only when the fronds are in a dry state.

ERICAS.

These, as the flowering season is over, should have the decayed flowers removed, a good washing given, and be repotted if this is deemed necessary—clean pots, very liberal drainage, and good peat and silver sand being the chief essentials. The potting, however, is a matter which should be performed by a practical man, in whose hands the work should always be put. The necessary staking should also be now attended to, as no better opportunity will offer itself. Thin, tapering Pitch Pine sticks neatly pointed should be used, and care should be taken that the root mass is not needlessly punctured in fixing them in the pots. Black cotton I have found a very serviceable tying material. Plants which have not been repotted, but are well charged with roots and healthy, may have a small quantity of Clay's Fertilizer given them. This is best applied in a liquid form, and should be thoroughly dissolved in tepid water and allowed to stand until the latter is quite cool before it is used.

PALMS.

These should be looked over, and any requiring repotting, especially those which were in use when the main batch was dealt with, attended to. Clay's Fertilizer here also should be given to all, say, once fortnightly, and I find it is best applied mixed with soil and put in as a top-dressing. This will stimulate growth and give a rich green colour, which is the best evidence of good health.

J. F. McLEOD.

Dover House Gardens, Rochampton.

THE FRUIT GARDEN.

EARLY PEACH HOUSE.

THE fruits in this division will have been gathered, and there is no better time than the present to cut away the old fruiting wood, cutting the latter to the shoot at its base, and by so doing giving the wood retained for next season's cropping a better chance to develop and ripen. Of course, this advice does not apply to wood needed for extension, but so few fruits are borne on the latter wood a goodly portion can always be removed of what is termed old-bearing wood. Gross wood in any part should not be allowed; on such wood good fruits are rarely produced, and cut out now the better wood may be laid in. Continue to syringe the trees daily; indeed, in our own case we use the hose freely after this date; it is a great gain to keep the foliage free of red spider. Should there be any of the latter it is well to syringe freely with an insecticide several times in succession. All ventilation possible should be admitted night and day, and the borders should be thoroughly watered, using liquid manure freely. Peach borders allowed to get dry will cause the foliage to fall, and the buds will not swell up, the result being bud dropping later on. Young trees being grown for forcing another season should be given liberal space, the wood trained thinly, strong wood stopped close back, and give ample moisture at the roots.

MID-SEASON TREES.

With trees ripening their fruits more ventilation will be needed, and the weather during the past few weeks having been very warm, in a few cases we have been obliged to shade our trees lightly, the latter being very close to the glass. At this stage, owing to the syringe being idle, there is a danger of the foliage becoming dirty; to maintain a healthy growing atmosphere it is well to thoroughly damp the floors, paths, and vacant spaces in the house several times daily. I am aware the old method of laying a bed of hay on the borders in case fruits dropped prevents moisture being applied is now little practised, and is not necessary; it is much better to go over the trees daily, gather them and place in a cool store. Fruits intended to be sent any distance, or packed, should be gathered before they are dead ripe; if this is done they will keep much better, and without loss of flavour. All fruit is best gathered early in the day, before being heated by the sun, and avoid unnecessary handling, as the slightest pressure bruises the Peach. Should there be any doubt as to the roots being dry I would not hesitate to water freely. Often borders partially outside get much dried if raised; these should receive attention, a mulch also will be beneficial.

LATER TREES.

Here will be the best fruit. Peaches and Nectarines not forced succeed well, and the fine weather of late has suited the trees. The final thinning should take place, but avoid overcropping, although in the case of trees at all gross it will be well to allow a heavier crop. The stoning period is often considered a difficult one, but with trees given ample attention there will be few failures from non-stoning. Feeding should not be neglected, especially with old trees cropping freely, and in houses with shallow borders I would advise a good mulch of short, rich manure, also frequent waterings of liquid manure. Avoid high temperatures at any time, as the latter causes a dry atmosphere, and is the forerunner of insect pests. Ventilate freely early in the day, and apply moisture liberally in all parts of the house. Trees that are wanted to produce fruits as late as possible should have free

ventilation at night, and though it is well to have the foliage dry early in the evening the ventilators should be wide open. Any foliage covering the fruits should be cut away, and it may be necessary to repeat the same every fortnight. Shoots not required for next year's crops, either for fruiting or extension, may with advantage be cut away. Lateral growths should be stopped, but main shoots allowed free play. G. WYTHES.

Nylon House Gardens, Brentford.

CHRYSANTHEMUMS.

THE main batch of plants, if potted as advised, will now, if they have been properly treated, have got well over the check, and the freshly made roots will be revelling in the new compost. We have experienced no heavy thunderstorms so far, which oftentimes supply too much water to the roots before the plants become established, and consequently the soil becomes sour. Especially does this apply to the more delicate and weaker growing kinds, and over which the cultivator has little control. As usual, Mme. Carnot and its sports are most persistent in losing their lower leaves, in spite of every precaution with us, and in many other cases that I am acquainted with these continue to do so more or less until about the first week in July, after which, if not over watered, the foliage made remains healthy, and, except that the plants are unsightly, are little the worse. All surplus growths should now be removed, also any buds as fast as they appear, and endeavour to get a good clean growth, the more vigorous the plants the less likely are they to produce premature buds. The plants will not require feeding for some time yet, as the fresh soil will render them all the nourishment needful. The surface soil should be stirred—very shallow—with a pointed stick, but not sufficiently to injure any young roots, and a very slight application of soot dusted over the bottom foliage and soil will do much to give the leaves a good colour. This is better applied during early evening, choosing showery weather if possible, and failing this give a thorough syringing after. Earwigs will soon begin to cause a lot of annoyance unless means are taken to destroy them. I know of no better way to trap them than by using Broad Bean stalks cut in lengths of from 4 inches to 6 inches. These should be fastened on almost every other plant, near the top, with about a foot of string. By so doing these will not become blown out and lost, and they offer most tempting hiding places. Look over each morning, blow out into a vessel of hot water, and carefully examine each point. When left to chance I have known them some seasons ruin 50 per cent. of the points.

POMPONS.

If not already done, no time should be lost in giving these their final shift; 9½-inch pots are the most suitable size to use, and the compost should be similar to that advised for the large flowering kinds—careful draining and firm potting are rules to be strictly observed. The growths ought not to be stopped after the beginning of July. Place a neat stake to each plant, and loop up each growth separately. These may either be grown in rows or squares during summer, but allow plenty of room between the plants. Many of these are very prone to mildew, so frequently dust the under parts of the leaves with sulphur.

DECORATIVE KINDS FOR MIDWINTER FLOWERING.

There is yet plenty of time, providing the plants are rooted, to make good serviceable plants for this purpose. Oftentimes there is a surplus left over from the main batch of plants, many of which—if stopped and potted on, though in a starved condition, and receive no further check—will furnish excellent material for cutting, and all kinds of decorative purposes. A good rich compost is fibrous loam of a medium texture—drain well and pot very firmly. Varieties selected and grown specially for the purpose should be ready for shifting on into their flowering pots, the most convenient sizes being 8½-inch or 9½-inch pots. These may safely be stopped up till the end of July, more especially those varieties which are inclined to bloom early. Medium-sized well-grown plants are

generally far preferable for all purposes than larger ones; the value of these can hardly be over-estimated, coming in as they do when other flowers are extremely scarce, and few things are produced more easily.

EARLY KINDS

grown as pot plants, the best of which are Mme. Desgrange and its sports, will require feeding as soon as the pots are well filled with roots. These varieties are much improved when liberal treatment as to stimulants is given them. These should not be stopped after now. Source d'Or is another invaluable kind for early flowering, the colour often being much in request; part of this variety may be stopped once more to prolong its season.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

Forthcoming events.—July 2: Royal Horticultural Society, Drill Hall, Westminster; Southampton exhibition (two days); and Hereford Rose show. July 3: Hanley Horticultural fête (two days); Croydon Horticultural Society's show; and Farnham Rose and Horticultural. July 4: National Rose Society, Temple Gardens, Thames Embankment; and Norwich Rose show. July 6: Meetings of the Royal Botanic Society and Société Française d'Horticulture de Londres; Maidstone Rose show; and Sutton Rose show.

Royal Horticultural Society.—The Royal Horticultural Society's Rose show will be held on Tuesday next (in conjunction with the National Rose Society), in the Drill Hall, Buckingham Gate, S.W., at 1—5 p.m. With the exception of plants, &c., shown for certificate, no other plants or groups, &c., except Roses, may be exhibited at this meeting. For schedule of prizes see Royal Horticultural Society's "Book of Arrangements for 1901," page 69. A lecture on "Mimetic Resemblances Among Plants: A Proof of the Inheritance of Acquired Characters," by the Rev. Prof. George Henslow, M.A., will be given at three o'clock.

Mr. Thomas Cook.—His Majesty the King has honoured Mr. Thomas Cook, at present gardener to the Earl of Wemyss, at Gosford, East Lothian, by appointing him gardener at Sandringham to succeed Mr. MacKellar. Mr. Cook is quite a young man, having been at Gosford as head gardener some seven years, previously having been foreman at the same place, and before that having held the same position at Whittinghame, the residence of the Right Hon. Arthur Balfour. Mr. Cook is a native of Ireland, though of English parentage, his first place this side the Irish Sea having been at Cardiff Castle, whence he came to Whittinghame.

Abnormal Pelargonium leaf.—I enclose a Pelargonium leaf which perhaps may interest you, as the size of it is unusual. The plant has flowered well, and produced this one large leaf, all the rest being of normal growth.—HENRY H. WORTHINGTON, Bindon, Wellington, Somerset.—[The leaf is certainly an enormous one; it measured 10 inches by 7 inches.—Eds.]

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

LECTURE ON GARDENING IN THE LONDON PARKS.

THIS was the subject of the lecture delivered on the 18th inst. to a large audience by Colonel Wheatley, R.E., whom the president (Sir Trevor Lawrence, Bart.), introduced as the high bailiff of the Royal parks. Prior to that, however, thirty-two new Fellows were elected, and it was mentioned from the chair that so far this year no less than 585 new ones had been added to the society. The lecturer said he had been some twenty-five years in charge of the parks. He had visited at home and abroad very many public gardens, &c., for the purpose of picking up new ideas, and he strongly urged that superintendents should be assisted to do the same, as in that way the very best results were obtained. Their work in the parks was purely horticultural or decorative, and not scientific, although sometimes scientific help proved valuable. In London they had to encounter fog, smoke, and atmospheric impurity, and these were most harmful to trees and plants. Things that formerly did well would do so no longer, hence the difficulties surrounding town gardening. Many trees, such as the Oak and Chestnut, would not thrive. The Plane was the best tree by far, and the Canadian Poplar was useful for a time, but later became bare lower down. It

was, however, a good screen tree. It had done well on stiff clay on Primrose Hill. He would like to see the Tulip Tree more largely planted, and thought the Ginkgo would make an excellent town tree also. Preparations for spring bedding began in the autumn by trenching and manuring, then planting bulbs largely. Old bulbs were not satisfactory the second year, hence they had to purchase new ones largely, vast quantities being used. Great numbers also were planted on the grass, but as that could not be mown until late the result was that a very brown appearance was presented for some time. He thought by making a careful selection of bulbs that bloom might be extended over some six to seven weeks. Trees and shrubs of flowering and foliage characters were very effectually used. Great care was needful to secure proper grouping. Remarkably fine foliage effects were obtained from beds planted with Ailantus, Catalpas, and Paulownias, which were cut back each winter, the new annual growths being so fine and handsome. Summer bedding was a big feature in the parks and gardens. These included all of national ownership in London and vicinity. In the central parks of London there were 215 beds, in Regent's Park ninety-eight and at Hampton Court 194. The old style of massing in beds or of carpet bedding had disappeared, and had given place to much more artistic effects and combinations. Some of the beds were of more permanent character, and filled with simple plants with some bulbs intermixed. These were cheaply planted. It was now the practice to keep large stocks of plants in pots for plunging in beds, especially those planted with some suitable carpeting and on turf. It was in relation to the constant provision of turf that much trouble was found. There was so much of wear and tear, and it was found that country turf was of little good, as the grasses in it soon died under the effects of town fogs, &c. They now found it needful to cut turf in the parks, as London grass was so diverse and far more enduring. The bare places were resown with seed. They were largely indebted to Mr. Carruthers, the distinguished botanist, who had analysed these country and town grasses, and had thus been able to advise them as to the selections for town sowing. Rhododendrons were shown to be short-lived so far as the better varieties were concerned, and had to be replaced every year with others from Knap Hill. Those returned to that place were some two or three years before they again bloomed freely. It was hoped that Bamboos would have done well, but only one or two did so moderately. All the best had to be grown in pots and housed for the winter, and then were plunged outdoors for the summer. These plants were less injured by frost than by cold, keen east winds. Special and complimentary reference was made to Mr. Mitford's excellent work in relation to Bamboos. The lecture concluded with reference to the birds and wildfowl in the parks and lakes. They would like to have the margins of the water planted with semi-aquatics, but the people liked to get close to the water's edge. Sir Trevor Lawrence proposed a cordial vote of thanks to Colonel Wheatley, and in doing so referred in not complimentary terms to the present condition of the parks' walks. This Colonel Wheatley, in response, said was right, but it was chiefly due to the long drought, which had rendered rolling impossible. The vote was unanimously approved.

RICHMOND HORTICULTURAL SOCIETY, JUNE 26. COMPETITIVE EXHIBITS.

Lady Tate was first for eight exotic Ferns, showing very fine specimens; A. Pears, Esq., Spring Grove, Isleworth (gardener, Mr. W. Farr) being second. Sir F. Wigan, Bart., (gardener, Mr. C. Want) was first for six exotic Ferns; C. M. Bartlett, Esq., Uplands, East Sheen (gardener, Mr. H. Hicks), being first for six Caladiums; W. Cunard, Esq., Roehampton, second. For six stove and greenhouse plants (three in foliage and three in bloom) Andrew Pears, Esq., was first. Lady Tate being first for six foliage plants.

Mr. F. E. Fordham was first for a group of plants (100 square feet in area) having a charming arrangement, the groundwork of Maidenhair Fern, Gypsophila being placed in between the bright flowering and foliage plants with excellent effect; C. Swinton Eady, Esq., was second. Sir F. Wigan, Bart., gained first prize for a semi-circular group of plants (space not to exceed 60 square feet); J. W. Barker, Esq., The Elms, Ham Common (gardener, Mr. W. G. Castle) being second; C. M. Bartlett, Esq., was third. C. M. Bartlett, Esq., was first for six Coleus in pots; Mrs. Coles, Hedingham House, Twickenham (gardener, Mr. J. Sallows), second.

Mr. Charles Turner, Slough, gained first prize for six show Pelargoniums, and also for six fancy Pelargoniums. Max Waechter, Esq., Richmond, was first for nine Gloxinias, and H. Little, Esq., was first for six exotic Orchids; Sir F. Wigan, Bart., being second. H. Little, Esq., was first for six zonal Pelargoniums, and also for six Ivy-leaved Pelargoniums.

For twelve tuberous Begonias, D. H. Scott, Esq., the Old Palace, Richmond (gardener, Mr. P. Johnson), was first; J. B. Hilditch, Esq., Asgill House, Richmond (gardener, Mr. A. Meaton), being second.

For twenty-four bunches of hardy herbaceous cut flowers Messrs. A. W. Young and Co., Stevenage, Herts, were first. Messrs. Paul and Son, Cheshunt, second. Messrs. A. W. Young and Co. also showed Pansies, Sweet Peas, their new Lobelia Distinction, Cacti, &c., not for competition.

Messrs. Perkins and Sons, Coventry, gained first prize for a hand bouquet, having a beautiful arrangement of Odontoglossums, Oncidiums, &c. Messrs. W. Fromow, Coliswick, were second. Mrs. Sutton, The Gardens, Whitemead, Farnham, was the successful lady amateur for table decorations, securing first prize for a pretty arrangement with pink Carnations, white Gladioli, Ferns, &c. For three vases of natural flowers suitable for dinner table decoration Miss N. H. Cole, The Vineyard, Feltham, was first.

For Sweet Peas, the prizes given by Mr. Robert Sydenham and open to his customers only, Bernard Weguelin, Esq., was first; Miss Cole, second. B. Weguelin, Esq., was also first for the prize given by Messrs. A. W. Young and Co.

NON-COMPETITIVE EXHIBITS.

Messrs. Thomas Cripps and Son, Tunbridge Wells Nurseries, Kent, contributed a large group of hardy Japanese Maples, arranged outside one of the tents. The plants were shown in great variety, and contained some beautifully coloured examples. Retinospora obtusa Crippsi, a handsome golden conifer that obtained a first-class certificate from the Royal Horticultural Society in 1899, was included in this exhibit.

Messrs. W. Fromow and Sons, Chiswick, W., also arranged a collection of Japanese Maples in great variety out of doors, Acer sanguineum variegatum, of which there was a good display, was one of the most remarkable. A pretty edging of Aralia pentaphylla was very conspicuous.

Messrs. J. Veitch and Sons, Limited, Chelsea, showed a fine lot of trained Ivies, including many beautiful kinds, such as H. H. madeirensis variegata, H. H. Crippsi, H. H. aurea densa, &c. Hardy Water Lilies were also shown.

Messrs. R. H. Bath, Limited, Wisbech, arranged a splendid display of cut Peonies, both single and double—Mme. Mutot, rose; Mme. Hutin, blush; Victor Hugo, rosy crimson; La Tendresse, white, being some of the best doubles. The singles comprised Pinetus, Castalides, and Abiah. Mr. S. Eida, 5, Conduit Street, Regent Street, sent an interesting lot of dwarf Japanese trees. Mr. A. Edwards, Arnold, Nottingham, exhibited some very tasteful table and room decorations, making use of the Edwardian perennials, &c.

Messrs. Paul and Son, Old Nurseries, Cheshunt, sent some fine Peony blooms, the varieties shown included many very decided and pleasing colours, viz., Sidonie, rose; Prince Imperial, rich crimson; Candissima, blush (all double); and Agnes Mary Kelway (semi-double).

Messrs. George Jackman and Son, Woking, Surrey, contributed a varied group of cut and bunched Roses and single blooms, together with hardy flowers in great variety, the Peonies, Iceland Poppies, Gaillardias, &c., adding much brightness to the arrangement. A charming lot of Sweet Peas was also sent. The Cactus-flowered zonal Pelargonium Fire Dragon was shown by Mr. E. S. Towell, Windmill Road, Hampton Hill. A pretty new Sweet Pea Idalia was shown by Mrs. Frank Brewer, Sufield House, Richmond.

Messrs. Barr and Sons, Covent Garden, showed hardy flowers in great variety, including double and single Peonies, Irises, Tritomas, Heucheras, Brodiaea laxa, Pentstemon acuminatus, Coreopsis, Gillenia trifoliata, Delphiniums, Pigmy Trees from Japan were also sent. Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, showed cut Roses in very good form and variety.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young), contributed an interesting group of miscellaneous Orchids. Many Lelio-Cattleyas were shown, including the beautiful L. C. Lady Wigan, 'Cattleya gigas', L. digbyana, Cochlioda noezliana, and many others.

Mr. John Russell, Richmond Nurseries, Richmond, Surrey, arranged a fine group of Ivies, wherein were included varieties of green, silver, and gold, well set up and very attractive. A group of miscellaneous stove plants was also sent by Mr. Russell. Anthuriums, Alocasias, Dracaenas, and Crotons in great variety were tastefully intermixed with Ixoras, Palms, Gloxinias, Jacaranda mimosaefolia, &c.

Messrs. H. Cannel and Sons, Swanley, Kent, exhibited a group of their splendid Cannas equally as good as usual. Mr. Robert Green, 28, Crawford Street, W., set up a group of splendid Crotons, all finely coloured. The varieties were shown in great diversity of foliage, and the result was excellent.

Mr. Leopold de Rothschild, Ascott, Leighton Buzzard (gardener, Mr. J. Jennings), exhibited a charming group of the Malmaison Carnation Princess of Wales, making a beautiful display.

Messrs. John Peed and Sons, Norwood, showed hardy flowers, Alpines, Gloxinias, Sweet Peas, &c., in very good character.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, set up a pretty group of miscellaneous stove and greenhouse plants, the effect of the arrangement being much heightened by the inclusion of various plants in flower, such as Carnations, Cannas, Statice, Bougainvillea, &c. The Hydrangeas were also very good. Schizanthus visetensis, cut Roses, and pot Vines were also sent by Messrs. Low.

Messrs. J. Hill and Son, Barrowfield Nurseries, Lower Edmonton, set up an interesting group of Ferns in variety, consisting of well-grown plants that were nicely arranged. Pteris Childsi, with very pretty leaves, Blechnum latifolium, the young fronds a beautiful colour; Lygodium, &c., were noticed.

Messrs. T. S. Ware, Limited, Feltham, Middlesex, sent an excellent display of hardy flowers, cut blossoms of tuberous Begonias, Phloxes, Delphiniums, Canterbury Bells, &c. Mr. W. Thompson, Sheen Nurseries, Richmond, showed a good group of Dracaenas, Palms, Hydrangeas, Caladiums, Ferns, &c. The Palms were splendid.

Messrs. J. Veitch and Sons, Chelsea, exhibited Kalanchoe flammea and Roses in pots. Both exhibits were excellent. The Kalanchoes were particularly bright and the Roses full of flower.

Mr. W. Iceton, Roehampton, showed a very good group of stove plants, including Caladiums, Palms, Hydrangeas, Lilies, &c., all splendidly grown and in the best of health.

Messrs. Carter, Limited, High Holborn, showed Gloxinias in excellent form. The plants were splendidly grown and the colours very pleasing. They were arranged on the ground, and were shown to the best advantage. Sweet Peas and dwarf Japanese trees were also shown by Messrs. Carter.

NATIONAL ROSE SOCIETY.

NURSERYMEN.

For forty-eight distinct varieties, three blooms of each, Messrs. B. R. Cant and Son, Colchester, were first, showing a very fine exhibit—Medea, Souvenir de S. A. Prince, Marquise Litta, and Dupuy Jamin were some of the best. Messrs. D. Prior and Sons, Colchester, were second, and Messrs. Frank Cant and Co. third.

For twenty-four blooms, distinct, Messrs. Harkness, Bedale, were first with good blooms; Mr. Charles Turner, Slough,

being second with good flowers also; the third prize falling to Mr. George Prince, Longworth, Berks.

For twelve blooms of any Rose except Teas and Noisettes, Messrs. A. Dickson, Newtownards, were first with fine blooms of Mildred Grant. The National Rose Society's medal for the best Hybrid Tea was also given to this exhibit; Messrs. D. Prior and Son had the second prize for Mrs. John Laing; and Messrs. Frank Cant and Co. the third prize for Bessie Brown.

For twenty-four blooms, distinct, Tea or Noisette, Messrs. D. Prior and Son, Colchester, were first. The silver medal of the National Rose Society for the best Tea or Noisette was here given to a splendid bloom of Maman Cochet; Mr. George Prince gained the second prize; and Messrs. Frank Cant and Co. the third.

For twelve Teas or Noisettes, Mr. John Mattock, New Headington, Oxford, was first, Mr. Charles Turner being second, and Messrs. J. Burrell and Co., Howe House Nurseries, Cambridge, third. In the nurserymen's section for garden Roses (thirty-six distinct varieties) the first prize fell to Messrs. Paul and Son, Old Nurseries, Cheshunt, for a splendid display of bunched Roses; L'Idéal, Gustave Regis, Souv. de Catherine Guillot, Papa Gontier, Ma Capucine, and others were beautiful; Mr. John Mattock, New Headington, Oxford, was second with a good display; Messrs. George Cooling and Sons, Bath, third.

For eighteen distinct varieties, Mr. George Prince was first, having an excellent display, Messrs. Frank Cant and Co. being second, and Mr. Charles Turner, third. For twelve distinct varieties (three blooms of each) of Tea or Noisette, in the open classes, Mr. George Prince was first, having splendid flowers, The Bride and Maréchal Niel being the best. The second prize fell to Messrs. B. R. Cant and Sons, and the third to Messrs. D. Prior and Son.

For twelve blooms of any one variety Messrs. B. R. Cant and Sons were first with Mme. Cusin, a beautiful flower; Mr. Prince second with Comtesse de Nadaillac; Messrs. D. Prior and Son third.

In the open section for garden Roses, Messrs. Frank Cant and Co. were first, Mr. Charles Turner second, the third prize falling to Messrs. George Cooling, Bath.

AMATEURS.

For twelve blooms, open to all, O. G. Orpen, Esq., West Bergholt, Colchester, was first, showing lovely blooms of S. de S. A. Prince, Mrs. J. Laing, and Maréchal Niel. The silver medal of the National Rose Society for the best Rose other than Hybrid Teas, Teas, or Noisettes, was given to a Mrs. John Laing in this exhibit. The second prize went to E. B. Lindsell, Esq., Bearton, Hitchin; and the third to Mrs. Haywood, Woodthatch Lodge, Reigate (gardener, Mr. C. J. Salter).

For twenty-four blooms, distinct, E. B. Lindsell, Esq., was first with excellent blooms, Rev. J. H. Pemberton second, and Alfred Tate, Esq., Downside, Leatherhead, third.

For eighteen blooms, distinct, R. Foley Hobbs, Esq., Thornloe, Worcester, was first, showing very pretty flowers; E. M. Bethune, Esq., second. For twelve blooms, distinct, William Kingston, Esq., Waterloo Road, Bedford, was first; George Moules, Esq., Hitchin, second; and F. Wellesley, Esq., Westfield, Woking, third.

The National Rose Society's medal for the best Hybrid Tea exhibited by an amateur was given to G. A. Hammond, Esq., Cambrian House, Burgess Hill, for La France. The first prize for six blooms, distinct, fell to R. W. Bowyer, Esq., Hertford Heath, Hertford, and the first for six blooms of any Rose, except Hybrid Tea or Noisette, to Beatrice H. Langdon, Raymead, Hendon, N.W.

TEAS AND NOISETTES.

For eighteen blooms, distinct, O. G. Orpen, Esq., was first, the National Rose Society's medal for the best Tea or Noisette shown by an amateur going to this exhibit and to the bloom Maman Cochet, very fine indeed. The Rev. F. R. Burnside, Great Hambridge Rectory, Rochford, Essex, was second. For twelve blooms, distinct, Rev. R. Powley, Upton, Scudmore, was first; F. Wellesley, Esq., Woking, second, and A. Mint, Esq., Slough, third.

For six distinct varieties, three blooms of each, the Rev. F. R. Burnside was first with very good flowers; O. G. Orpen, Esq., second, and E. M. Bethune, Esq., third. For six blooms of any one variety, the Rev. F. R. Burnside was first, showing White Maman Cochet. E. M. Bethune, Esq., was second with Sylph, and Miss Beatrice H. Langdon was third.

For garden Roses, twelve distinct varieties, Alfred Tate, Esq., was first with splendid bunches, the second prize going to the Rev. J. H. Pemberton, Havering-atte-Bower, Essex, very good also.

LOCAL.

James Wigan, Esq., Cromwell House, Mortlake (gardener, Mr. W. Jones), was first for eighteen blooms, distinct, showing very good blooms, and also for twelve blooms distinct. Mr. C. Winch, Dunningside, Petersham, gained the first prize for twelve varieties, distinct, in the class open to amateurs not having a gardener.

The silver medal of the National Rose Society for the best Rose other than Hybrid Tea, Tea, or Noisette was given to Messrs. D. Prior and Son for Mrs. J. Laing.

Messrs. Prior and Son, Dickson (Newtownards), Miss M. Cintra, James Wigan, Esq., and R. Foley Hobbs, Esq., were other prize winners. The Prince Memorial Cup, for twelve Tea Roses, distinct, was given to the Rev. R. Powley, Upton Scudmore.

LIST OF AWARDS.

Gold medals.—M. Leopold de Rothschild and Sir F. Wigan, Bart.

Silver-gilt medals.—Messrs. Cannell and Sons, Russell and Sons, Carter and Co., James Veitch and Son, Limited, and Hill and Sons.

Silver medals.—Messrs. Icton, Green, Thompson, T. S. Ware, Limited, Hugh Low and Co., J. Peed and Sons.

A. W. Young and Co., Barr and Sons, Rumsey, Cripps, Fromow, W. Spooner, S. Eida, and George Jackman.

Vote of thanks.—Messrs. Robert Sydenham, Jones and Sons, Bath and Co., and S. H. Calcutt.

Certificate of merit.—Messrs. Laxton Bros., Bedford.

The report of the exhibits of fruits and vegetables at Richmond, and of other societies' meetings also, is unavoidably held over.

TRADE NOTES.

A GOOD INSECTICIDE.

THE Abol Insecticide has now been some years before the public, and it becomes a greater favourite as it becomes better known as a wash for plants. It is most effective, and is a great favourite in the fruit-growing districts; in Kent, indeed, its value as an exterminator of insect pests was first proved in a large way in the destruction of aphids and blight. The writer of this note a couple of years ago had a sample of the Abol sent him for trial, and was not at all enthusiastic as to its merits until its value was seen after one—and that only a partial—trial upon some Roses that were badly infested with green fly. The next was a more thorough trial—on some Cherries infested with black fly, the latter a difficult subject to tackle, and seeing how thoroughly the pest was cleared, my faith in the Abol Insecticide has never wavered, and it is certainly a most valuable insecticide in the garden, and so easily applied. Last season I saw some very bad cases of Peach and Nectarine trees being ruined by black fly owing to the heat and lack of moisture. My advice was dress freely with the Abol, then syringe every evening till new growth resulted, and, being an amateur's trees, some fear was expressed that the remedy would be too much for the trees, as there was so little clean foliage, and here is seen the value of the Abol. It may be applied freely by the most inexperienced hands if used as advised.

I now come to another matter. Abol, though destructive to insect life, will not injure tender foliage. If used very strongly it may be advisable to wash over after with clear water, but, so far, I have never seen the foliage injured if the preparation is used when the plants are shaded. Like some other strong insecticides, it does not ruin paint or varnish, though, of course, it is advisable to keep free of both. It does not stain like some others, but, on the other hand, the Abol must be used freely. It is not fair to any insecticide to use it sparingly, as unless insect pests are thoroughly saturated it cannot succeed, and growers know how difficult the pests are to get at when encased in folded leaves and in crevices. Abol, though good, is far from costly—this is a strong recommendation. There is a great gain in having a good insecticide ready for use at a moment's notice, without any fear of evil consequences following its application.

J. M.

LAW.

IMPORTANT DECISION.

AN important decision affecting the law on market gardening was given by Judge Woodfall at the Paignton (Devon) County Court recently. Mr. W. J. Swartman brought an action against William Elliott for £6 15s. damage to Gooseberry and Currant bushes. Mr. O. S. Bartlett appeared for plaintiff; Mr. P. Almy for defendant. At Lady-day last Elliott had to give up the house and garden he rented from Swartman. It was alleged that on the day he gave up possession he cut down all the Gooseberry and Currant bushes. There were between 130 and 140 bushes cut down. A man named Squire, plaintiff's father-in-law, said defendant told him he claimed £2 10s. for the bushes, some Cabbage plants, manure, &c., and said he was not going to leave the trees for the next tenant. He did not know defendant was a market gardener. Plaintiff refused to pay because defendant was not entitled to compensation. Squire, in reference to the remark that he did not know defendant was a market gardener, when asked by Mr. Almy why Elliott wanted such a large garden, said he did not know. His Honour: Suppose he was a market gardener? Mr. Almy: Then he would be entitled to remove the bushes at the end of his term. Defendant said he rented the garden for twenty-five years. It was a verbal tenancy. He worked for the Brixham Council, and gave his spare time to the garden. Swartman bought the property about eleven years ago and told him the tenancy would continue as before. When he had notice to quit he claimed £2 10s. compensation. He cut down the bushes because they would not allow him a farthing. He sold the tops as cuttings and burnt the rest. They were his, he planted them all, and he had a right to do what he liked with them. Defendant's son deposed as to picking fruit from the garden and selling it. His Honour: Is there any definition of a

market gardener in the Act? Mr. Bartlett: No; but apparently it means a man who occupies a garden almost exclusively for the purpose of his business. His Honour said Mr. Almy had to show that defendant was a market gardener. He believed every word defendant had said, for clearly he was a perfectly honest man. But the question was—Was he entitled to destroy the bushes? There was no agreement in writing. Therefore defendant came under section 4 of the Act. There was no doubt defendant sold the produce, but he must have used the garden as a market garden with the knowledge of the landlord. Mr. Almy agreed that the use of the garden as a market garden must have been with the landlord's knowledge. Defendant was living alone, and therefore would not require a large garden with many fruit trees, &c., for his own use. The case of King v. Eversfield laid it down that agreements under the Act must be construed liberally in favour of the tenant. His Honour said the knowledge of the landlord was his difficulty. The onus of proof was on defendant, and he was not satisfied. He was not entitled to draw inferences, and he knew of no such rule as construing an Act liberally in favour of the tenant. He construed an Act of Parliament to mean what it said it meant. There was no way of construing an Act liberally. He knew learned judges had said something about liberal construction, but with all deference he begged to differ from them. Acts of Parliament ought to be construed fairly as between party and party. Defendant had no right to do as he did. Judgment for plaintiff for 30s. and costs.

ANSWERS TO CORRESPONDENTS.

Names of Plants.—A. G. W.—1, *Veronica rupestris*; 2, *Scilla peruviana*.—R. H. Wilmut.—1, *Heuchera micrantha*; 2, *Dianthus plumarius* var.; 3, *Saxifraga decipiens*; 4, *Saxifraga gibraltarica*; 5, *Saxifraga ceratophylla*; 6, *Dianthus arenarius*.—Talob Brown.—*Pyrus Aria* (White Beam Tree).—Foreman. Rose *Acacia* (*Robinia hispida*).—Mole.—Roses: 1, *Devoniensis*; 2, *Cheshunt Hybrid*.

Malformed Pink blooms (E. E. A.).—The formation of the buds in the centre of the flowers is a common occurrence this season. Many of the Malmaisons have it, but as the flowers open the petals cover the central part. The green, hard substance can be pulled out when it is too conspicuous. No one has as yet found a reason for it, except the incidence of the seasons. It cannot in any way be prevented.

Caterpillars in Gooseberry bushes.—(C. C., Middlesex). Planting Broad Beans near Gooseberry bushes with the object of preventing the bushes from being attacked by the grubs of the Gooseberry saw-fly is by no means a new idea. A branch of the Common Furze or Gorse is said to effect the same purpose. It is difficult to understand in what way these plants act. One would imagine that it was by some smell that they emit, which must be obnoxious to the saw-flies, and who in consequence avoid those bushes. We must admit that we have always been very sceptical about these preventives, but the experiment quoted by "C. C." appears very conclusive, and we cannot point to any flaw in the deduction he draws from it, except that it was only made once, and that it is possible that there were other agencies at work, or that by chance the flies did not select the bushes near the Beans. It is seldom that all the bushes in a garden are attacked. It would be very interesting if any of our readers that have tried this plan would relate their experiences, as a simple and effective method of keeping Gooseberry bushes free from this pest is sadly wanted.

Winter-blooming Pelargoniums (G. K.).—You should get your plants for this purpose now in small pots. Shift at once into 6-inch pots, using for such potting a compost chiefly of turfy loam, with some old hotbed manure and sand added. Pot the plants quite firmly, then stand in a close frame, and shade moderately during hot sunshine for a week or so, then stand the plants on a hard gravel or ash bottom outdoors fully exposed to the sun, at least 15 inches apart, so that they get ample light and air. This exposure is necessary to thoroughly harden the wood or otherwise it would be too soft and sappy for winter flowering. If enough ashes or cocoa-fibre refuse can be placed about the pots to bury them a few inches it will be all the better for the roots. Keep the points of shoots and all flower buds picked off until the end of August, then allow the plants to make free growth. They should be housed by the middle of September. For flowering a temperature from 50 to 60 is needful.

Growing Pot Vines (AMATEUR).—Much depends on whether you want Vines in pots for planting or forcing in their pots. The former suffice if grown in 6-inch pots, and need not be so gross as are those required for fruiting in pots. The ordinary course is to save, when the usual pruning is done in the winter, portions of the stoutest of the previous season's shoots or laterals, tying them in small bundles according to varieties, then laying them into the ground by their lower ends to keep them fresh. About the end of January these bundles may be taken to the potting shed, be cleansed there, cut into eyes or cutting buds, each bud having attached to it about half an inch of wood below and two-thirds of an inch above. These should be set thickly into pots filled with sandy soil, the buds just showing, then be stood in a close frame in which there is a temperature of some 70° of heat. When good growth is made the plants have to be shifted singly into small pots, later on into larger ones, and finally for fruiting into 10-inch to 12-inch pots, being grown on under glass until August, when they can be stood outdoors to ripen their stems.

We are sorry many replies have been unavoidably held over until next week.

